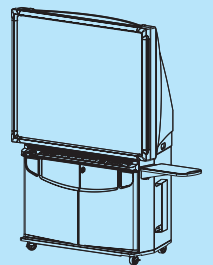


Installation Guide

Rear Projection SMART Board™ 4000i

Interactive Whiteboard



Registration Benefits

In the past, we've made new features such as handwriting recognition and SMART Recorder available as free software upgrades. Register your *Rear Projection* SMART Board 4000i interactive whiteboard to be notified of free upgrades like these.

Keep the following information available in case you need to contact Technical Support:

Serial Number _____

Date of Purchase _____

Register online at: www.smarttech.com/registration

FCC Warning

This equipment has been tested and found to comply with the limits for a "Class A" digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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U.S. Patent Nos. 5,448,263; 6,141,000; 6,326,954; 6,337,681; 6,741,267 and 6,747,636. Canadian Patent No. 2,058,219. Other U.S., Canadian and foreign patents pending.

Printed in Canada 07/2004

Important Information

Please read this manual carefully before setting up and using the *Rear Projection SMART Board™ 4000i* interactive whiteboard. With proper care, your 4000i should provide years of trouble-free service.

WARNING



The projector inside the cabinet is a high-brightness light source. Do not stare into this beam of light or view it directly. It's especially important that you prevent children from staring directly into the beam of light.

Le projecteur qui se trouve à l'intérieur de l'armoire est une source de lumière à luminosité élevée. Ne fixez pas et ne regardez pas dans la direction du faisceau lumineux. Empêchez les enfants de regarder dans la direction du faisceau lumineux.

El proyector que se encuentra en el interior de la cabina es una fuente de luz de alta luminosidad. No mire fija ni directamente al haz de luz. Evite que los niños fijen la vista en el haz de luz.

Der Projektor im Schrank stellt eine Lichtquelle mit hoher Intensität dar. Blicken Sie nicht direkt in den Lichtstrahl. Verhindern Sie, dass Kinder direkt in den Lichtstrahl blicken.

キャビネット内のプロジェクターは、高輝度光源です。ビーム光線を覗き込んだり、直接見たりしないでください。お子様がビーム光源を覗き込まないように注意してください。

WARNING



To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

Pour réduire le risque d'incendie ou de choc électrique, évitez d'exposer ce produit à la pluie ou à l'humidité.

Para reducir el riesgo de incendio o de descarga, no exponga este producto a la lluvia o la humedad.

Um das Risiko eines Feuers oder eines Stromschlags zu reduzieren, darf das Produkt weder Regen noch Nässe ausgesetzt werden.

火事や感電の恐れがありますので、この製品は雨にさらしたり湿気のあるところに置かないでください。

**WARNING for
European
Customers**



The 4000i should only be used with European TN and TT power distribution systems.

The 4000i is not suitable for older, IT-type power distribution systems found in some European countries. "This system (IT-type) is widely used isolated from earth, in some installations in France, with impedance to earth, at 230/400V, and in Norway, with voltage limiter, neutral not distributed, at 230V line-to-line." (IEC 60950:1999)

Contact qualified personnel if you're uncertain of the type of power system available where you're installing your 4000i.

**AVERTISSEMENT
pour les clients
européens**



Le 4000i doit être utilisé uniquement avec les systèmes de distribution d'alimentation européens TN et TT.

Le 4000i ne convient pas aux systèmes de distribution d'alimentation plus anciens de type IP utilisés dans certains pays européens. « Ce système (type IT) est largement utilisé isolé de la terre, dans certaines installations en France, avec une impédance à la terre, à 230/400V, et en Norvège, avec limiteur de tension, neutre non distribué, à 230V ligne à ligne. » (IEC 60950:1999)

Si vous avez des doutes sur le type de système d'alimentation disponible lors de l'installation de votre 4000i, contactez un personnel qualifié.

**ADVERTENCIAS
Para los clientes
europeos**



La 4000i sólo se podrá utilizar con los sistemas eléctricos TN y TT europeos.

Este modelo no está disponible para antiguos sistemas eléctricos de tipo IT que aún se utilizan en algunos países europeos. "Este sistema (IT) tiene una utilización muy extendida como núcleo aislado de tierra; en algunas instalaciones en Francia, con impedancia de tierra, a 230/400 V; y en Noruega, con limitador de tensión, a 230 V entre conductores." (CEI 60950:1999)

Si no está seguro del tipo de sistema eléctrico que posee, póngase en contacto con personal cualificado a la hora de instalar su modelo 4000i.

**WARNUNG
für europäische
Kunden**



Das 4000i darf nur mit europäischen TN- und TT-Netzverteilern verwendet werden.

Das 4000i eignet sich nicht für ältere Netzverteiler vom Typ IT, die in manchen europäischen Ländern zu finden sind. „Dieses System (IT-Typ) wird, von der Erdung isoliert, in einigen Installationen in Frankreich mit Impedanz zu Erde bei 230/400 V und in Norwegen mit Spannungsbegrenzer, neutral, nicht verteilt, bei 230 V Leitung zu Leitung verwendet.“ (IEC 60950:1999)

Wenden Sie sich an qualifiziertes Personal, wenn Sie sich nicht sicher sind, welches Stromsystem dort zur Verfügung steht, wo Sie Ihr 4000i installieren.

**ヨーロッパのお客様への
警告**



4000i はヨーロッパの TN および TT 配電システムでのみ、使用する必要があります。

4000i はヨーロッパの一部の国で使用されている旧式の IT タイプの配電システムには適していません。「このシステム (IT タイプ) は、地面から離れた状態で広く使用されていますが、一部フランスでは 230/400V

でインピーダンスを通して接地され、ノルウェイでは、電圧制限器により中性非分散型で 230V のライン間電圧で使用されています」(IEC 60950:1999)

4000i

をインストールする際に使用可能な電源システムのタイプに関して不明な点がある場合は、担当者までお問い合わせください。

Other Warnings and Safety Precautions

For operating safety and to avoid damaging the unit, follow these warnings and precautions.

- Move the cabinet with care. Quick stops, excessive force and uneven surfaces can overturn the cabinet.
- When you transport the 4000i, *only* ship the cabinet in the upright position and never lay the screen facedown. In addition, ensure that the projector is secure, or remove and repackage it in the original packaging.
- If you transport the 4000i over a distance, we strongly urge you to completely repackage it using the original packaging. This packaging was designed with optimal shock and vibration protection. If the original packaging is no longer available, pack all components with as much padding as reasonably possible to ensure that they are not exposed to excessive vibration or shock.
- If you need to disassemble or assemble the cabinet, we strongly recommend that you obtain assistance to do this.
- *Do not* touch the rear surface of the interactive whiteboard or apply isopropyl alcohol, water or acetone. If any of these fluids come into contact with this surface, the diffusion coating on the rear of the interactive whiteboard will be damaged, resulting in a permanent deterioration in display quality.
- If you inadvertently smudge the rear surface of the interactive whiteboard, wipe it carefully with a soft cloth and alcohol-free glass cleaner. *Do not* spray the glass cleaner directly onto the surface; spray it *lightly* on the cloth, and then gently dab the rear surface of the interactive whiteboard until the marks are removed.
- The 4000i uses digital cameras that are located inside the screen frame. These cameras could be damaged if excess glass cleaner flows into the crack between the frame and the writing surface.
- Avoid setting up and using the 4000i in an area with excessive levels of dust, humidity or cigarette smoke, or where it's exposed to extreme heat or cold. The operating temperature range is from 41°F to 85°F (5°C to 29°C) with up to 80% humidity (non-condensing). The shipping and storage range is from -4°F to 95°F (-20°C to 35°C) with up to 80% humidity (non-condensing).
- Lock the casters after you set up the cabinet, so it remains stationary while in use.
- Unplug the cabinet during electrical storms or if you won't use it for an extended period of time.
- Use safe practices when you're plugging the power cable. For example, plug it in with dry hands and don't insert it into a dusty outlet. Unplug the cabinet before you install or service any components.
- This product comes with a grounding-type power plug and a cable that's specific for the country in which you purchased it. This plug will only fit into a grounding-type power outlet. If you are unable to insert the plug into the outlet, contact your electrician to replace the outlet.
- Use the power supply that came with the 4000i. Also, do not modify its power cable. Handle it carefully and avoid excessive bending. Route the power cable so it's unlikely to be walked on or pinched by items placed upon or against it. If you must run a cable over the floor, lay it in a flat, straight line and secure it to the floor with tape or a cable management strip of contrasting color.

- If you require replacement parts, ensure the service technician uses the replacement parts specified by SMART Technologies Inc. or parts with the same characteristics as the original.
- The projector that comes with the 4000i includes a lamp component that contains mercury. If you replace the lamp, don't put the old one in the trash. Instead, consult the regulations for properly and safely disposing of it in your area.
- Don't use glass cleaner on the lens of the projector. See *Maintaining and Troubleshooting the 4000i* on page 49 for detailed cleaning information or read the *Epson® PowerLite 9300i Multimedia Projector User's Manual*.

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Getting to Know the 4000i

The *Rear Projection* SMART Board 4000i interactive whiteboard is a slim cabinet with an integrated LCD projector and a 66" (167.6 cm) interactive whiteboard (measured on the diagonal), which is specially designed for enhanced rear projection clarity. The 4000i features:

- an integrated projection system that includes an Epson PowerLite 9300i projector with 2500 ANSI lumen brightness, SXGA+ resolution and high contrast ratio for uniform brightness and clarity
- a touch-sensitive, high contrast screen that you can use to control your computer and write in electronic ink over any active application
- a SMART pen tray (including four styluses and an eraser) and a control panel with easily accessible projector and volume controls so you can control the visual and audio aspects of your presentation right at the interactive whiteboard
- full guest-laptop (or any external computer) support with connection cables and a conveniently mounted shelf for your laptop
- SMART Board software with many annotation and presentation tools, including SMART Notebook™ software, so you can deliver a dynamic and interactive presentation
- an integrated audio system that includes two-way speakers with tweeters
- a wireless keyboard
- an easily accessible rear connection panel so you can integrate a guest laptop, network cables, a printer, a VCR, a DVD player, a second projector and a room audio system
- locking front doors so you can secure the projector and computer inside the cabinet. (On shipment, the keys are tie wrapped to the projector mounting bracket.)
- minimal floor space requirements and casters so you can easily move the 4000i through any standard doorway for true room-to-room mobility

The digital-vision touch (DViT™) technology in the 4000i uses digital cameras to track the position of objects on the screen. Each of these specialized digital cameras, one in each corner of the screen, is calibrated to recognize the position of a pen tray tool or your finger on the screen surface, and to translate that position into coordinates. SMART Board software interprets these coordinates and integrates this information with your active application so you can truly interact with your displayed file.

To enable rear-projection capability, a mirror in the cabinet redirects the projected image from your computer, VCR, DVD player or guest laptop onto the back of the interactive screen, without the distracting shadows of a front-projection system. You can then perform any normal computer operation, such as opening or closing an application, scrolling through a file, or opening your browser, just by touching the screen surface.

This guide includes instructions on setting up (page 8), finalizing (page 32), using (page 41) and maintaining (page 49) the 4000i. You can also use this guide if you need to disassemble and then reassemble the cabinet (page 61) or if you want to learn about the internal wiring and cables of the unit (page 75).

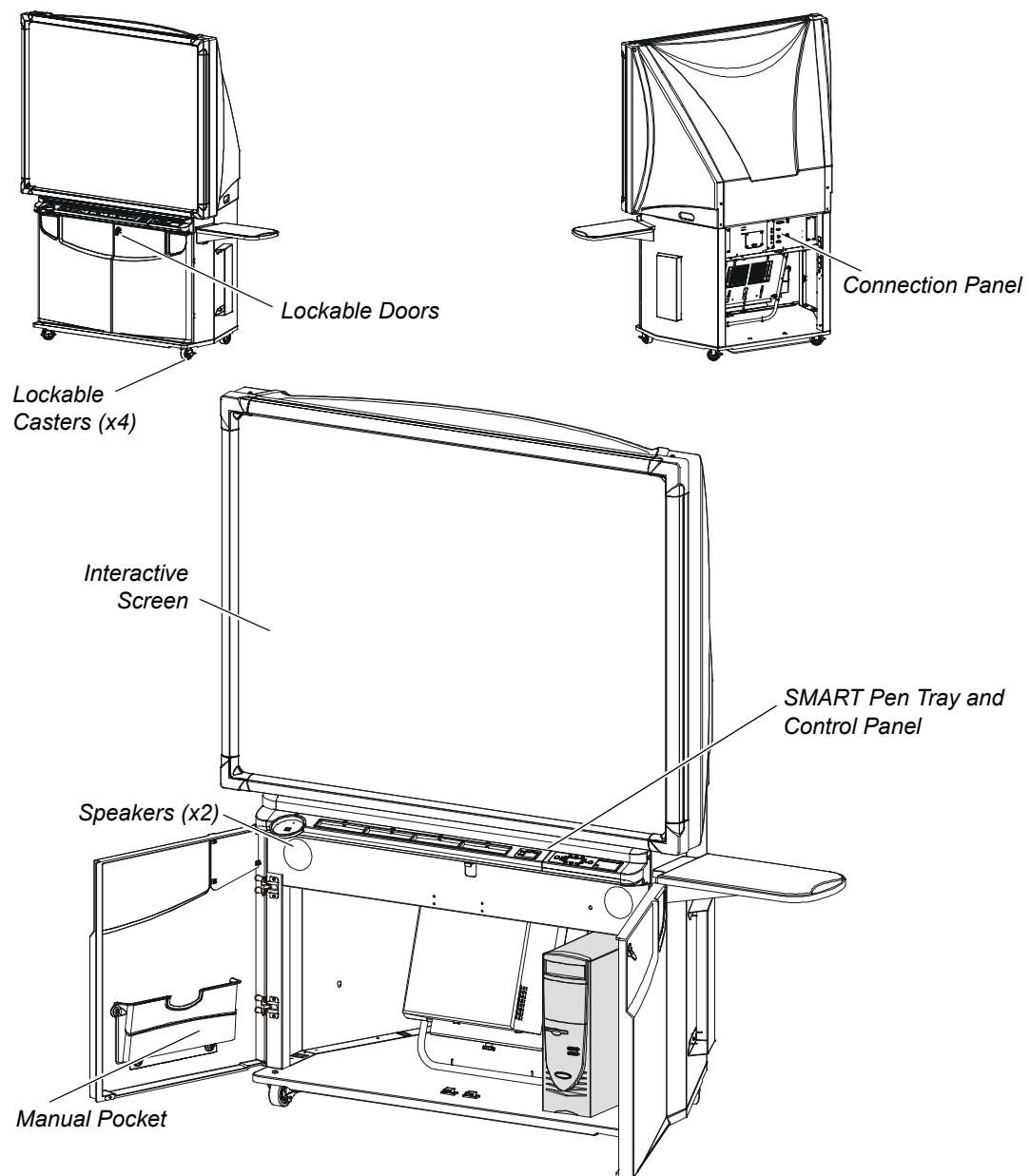


Figure 1: The Major Components of the 4000i

You can purchase optional components for the 4000i, such as a videoconferencing shelf to house your videoconferencing camera, and a room control module to integrate the 4000i with a room control system.

The Pen Tray and the Control Panel

The pen tray contains the following tools:

- the eraser, for removing electronic ink
- four styluses, for creating different colored annotations in electronic ink over any application
- two pen tray buttons, one to activate the SMART Keyboard and one to create a right-click
- the control panel

You can customize any of these tools with SMART Board software.

NOTE: The 4000i comes with styluses that have black tips, which are better detected by the digital cameras than any other kind of stylus. If you need to purchase a different stylus, choose one that has a dark tip.

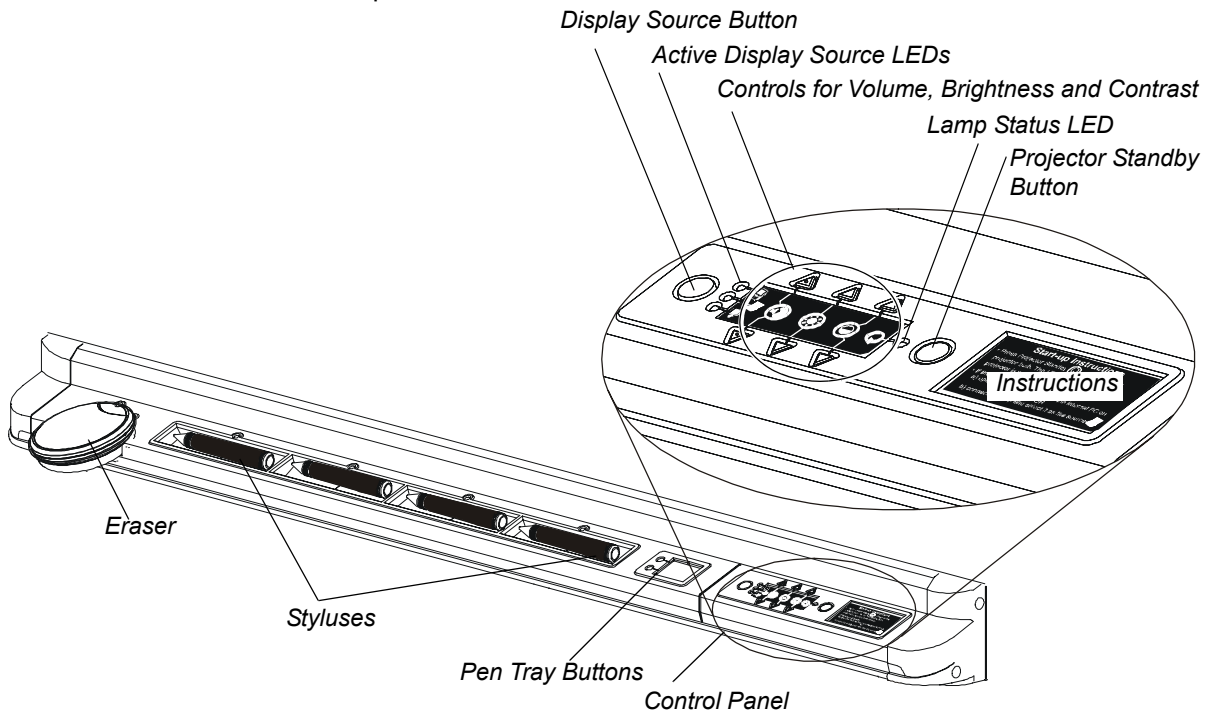


Figure 2: The Pen Tray and the Control Panel

The control panel contains:

- a Display Source button for changing the input source (see page 45)
- light emitting diodes (LEDs) that indicate the active display source (see page 43)
- buttons for adjusting the volume of the internal sound system for each source (see page 43)
- buttons for adjusting the visual display for each source (see page 44)
- an LED for indicating the state of the projector's lamp (see page 43)
- a button for putting the projector into standby mode (see page 41 and page 48)

NOTE: After you press a control panel button to change the display source, wait a few seconds while the projector synchronizes the video signal. Don't press any other control panel buttons until the image appears. If you press the control panel buttons in quick succession while the projector is still processing your commands, the projector might become unresponsive.

Storage Options

The 4000i houses the projector in the middle of the cabinet. You can house your internal computer on the right side of the projector, and use the other side for another compact device. Your 4000i also comes with:

- a laptop shelf that's designed to support a guest laptop (or a VCR/DVD player). You can mount this shelf on either side of the cabinet. For instructions on installing the shelf, see page 9.
- a keyboard holder for storing the wireless keyboard when it's not in use
- a manual pocket for storing the guides that come with the 4000i

You can also purchase a large or small videoconferencing shelf that's designed to hold a videoconferencing camera unit conveniently at either side of the cabinet.

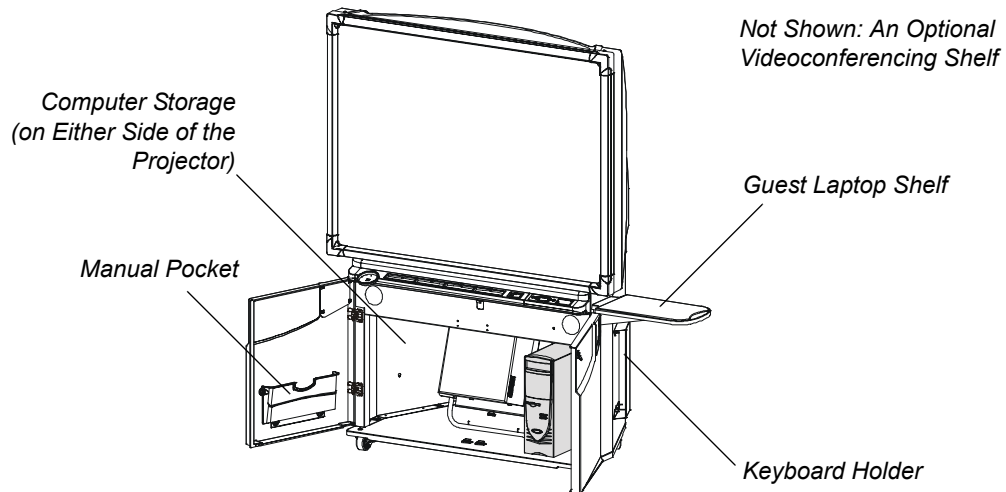


Figure 3: The Storage Features of the 4000i

The Connection Panel

The connection panel is a convenient location for connecting the laptop umbilical and other peripheral device and data source cables. While the guest laptop cables are already connected for you, you can supply and connect the cables for a printer, a network connection, a VCR, a DVD player and an external audio and video device. The connection panel includes:

- a DB25 (female) printer port (1) for connecting a printer that's dedicated to the internal computer (see page 27)
- a standard RJ45 network port (2) for connecting the internal computer to a room network outlet (see page 22)
- a 15-pin (female) RGB video port (3), for connecting an external projector or monitor (RGB output only) that allows you to display the video externally (see page 30)
- RCA Composite video (female) input port (4) for connecting the video cable from a VCR (see page 25)
- a mini-DIN S-video (female) port (5) for connecting the video cable from a DVD player (see page 25)
- a 15-pin (female) RGB video port (6) used by the laptop umbilical RGB video cable (labeled **Computer 2 Video**) (see page 53)
- a 3.5 mm (female) input jack (7) used by the laptop umbilical audio cable (labeled **Computer 2 Audio**) (see page 53)
- two RCA (female) input jacks (8) for connecting the VCR or DVD player's red and white RCA audio connectors (see page 25). You can only connect one audio source to correspond with *either* the composite *or* the S-video video source.
- two RCA (female) output jacks (9) for connecting the red and white RCA audio cables to a room sound system (see page 29) that can play the audio from the selected input source
- a DB9 (male) RS-232 serial port (10) used by the laptop umbilical RGB cable (labeled **Computer 2 Serial**) (see page 53). Read the section entitled *Using the Guest Laptop* on page 46 for more information. If you need to establish a USB connection, use the SMART USB adapter from the accessory kit.

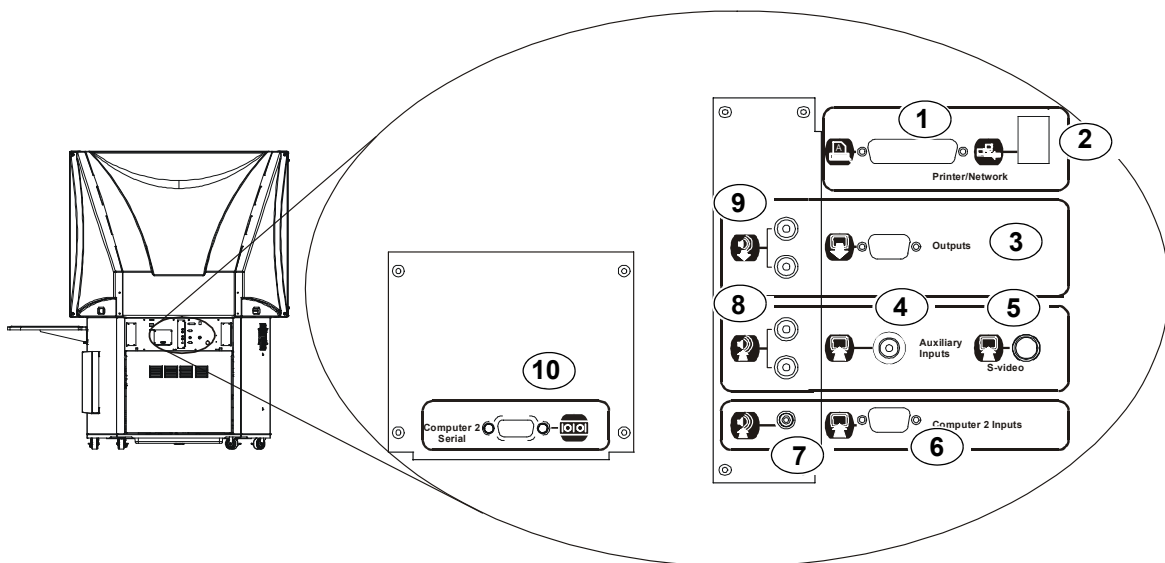


Figure 4: The Connection Panel

The Power and Laptop Umbilical Connections

The power connections are at the back of the 4000i, beside the connection panel. Here, you can connect:

- the Main Power IN cable (with the country-specific cable), to supply power to the 4000i (see page 31)
- the Laptop Power OUT cable, using a country-specific end (from the accessory power kit) for the laptop umbilical cable (see page 23)
- the computer and peripherals IEC Power OUT (x4) cables. These ports in the power bar are covered by the rear access panel. The power cable extensions from the projector and the internal computer are connected for you. However, you can use the remaining ports for connecting the power cables from your peripherals.

The laptop umbilical are a convenient bundle of cables for connecting a laptop computer (see page 23). This bundle includes the following connectors:

- a power cable, so a guest presenter doesn't have to rely on battery power
- an RJ45 network cable, which you can connect to a room outlet (with the included adapter) to provide network access to guest presenters
- a 3.5 mm audio cable, so the sound from the laptop can be heard through the speakers in the 4000i and through any connected room audio system
- a 15-pin male RGB video cable, so the video from the laptop displays on the interactive whiteboard
- a DB9F RS-232 serial cable, so you can control the interactive whiteboard from a laptop (as long as you have SMART Board software running on the laptop)

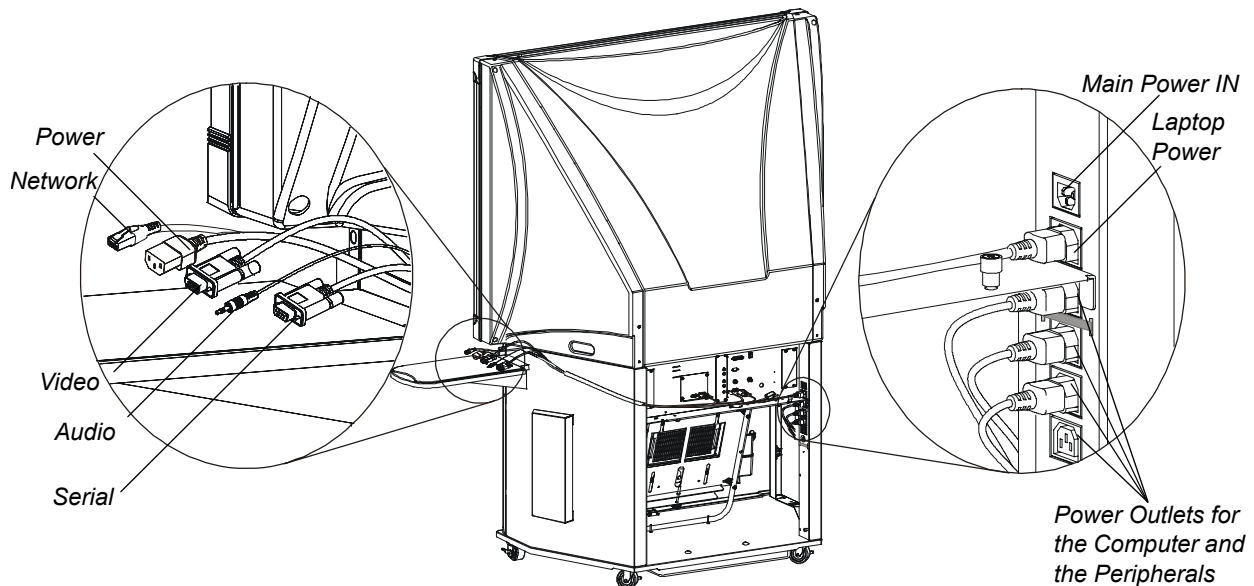


Figure 5: The Power and Laptop Connections

The Epson 9300i Projector

The 4000i comes with an Epson 9300i multimedia projector for you to install in the cabinet. This projector has been selected for its high resolution and its uniform brightness and clarity. Also, its lamp has a life expectancy of 7,000 hours.

This projector has a native resolution of 1400 x 1050 pixels. To take advantage of this high resolution, a connected computer should have a graphics card or driver that supports this resolution. Your computer can support this resolution setting as long as you've installed a recently released graphics card or you've a graphics controller program running. An example of a graphics card that supports this resolution is the NVIDIA card from NVIDIA® Corporation, and an example of a graphics controller program is the PowerStrip application, which is available from EnTech Taiwan. If you use a graphics controller program, set the computer's resolution setting to 1400 x 1050 pixels by following the instructions that come with the program. While the projector scales all resolutions from 640 x 480 pixels and higher, some resolutions may not properly display and the image quality will be lower if you don't use the optimal resolution of 1400 x 1050.

The 9300i projector comes with a remote control with an On/Off button to conserve battery life.

Like other projectors, the 9300i can be in various states during the course of a day (see Table 1). For example, the projector puts itself in Standby mode if it doesn't receive a video signal for 30 minutes. To determine what state the projector is in, look at the LEDs in the 4000i's control panel and use Table 1. If you need more information on these LEDs, see page 43. If you need more information on using the control panel, see page 45.

Projector State	Comments	Length of Time in This State	Lamp Status LED	Active Display Source LEDs
Standby	The projector is effectively off. The interactive white-board is blank. The fan may be running.	Indefinitely	Flashing very slowly	None lit
Powering Up	The lamp is warming up. The interactive whiteboard displays the A/V mute image. (You can change what's displayed on this A/V mute screen. See page 35 or page 63 and 64 of the projector's guide.)	40–100 seconds	Flashing slowly	None lit
On	The lamp is on and the projector is ready for use. The interactive whiteboard displays the image from the selected source.	Indefinitely	Glowing steadily green	Current source LED lit
Reversible Standby	The lamp is on. The interactive whiteboard displays the A/V mute screen.	Five minutes	Flashing quickly	None lit
Powering Down	The lamp is cooling off. The interactive whiteboard displays the A/V mute screen.	50 seconds	Flashing slowly	None lit

Table 1: States of the Projector

Setting Up the 4000i

To set up the *Rear Projection* SMART Board 4000i interactive whiteboard, you must install the projector and an internal computer, and power up the 4000i. If you have other devices in your setup, read the applicable pages of this section to learn how to install these peripherals. This section of the guide describes how to:

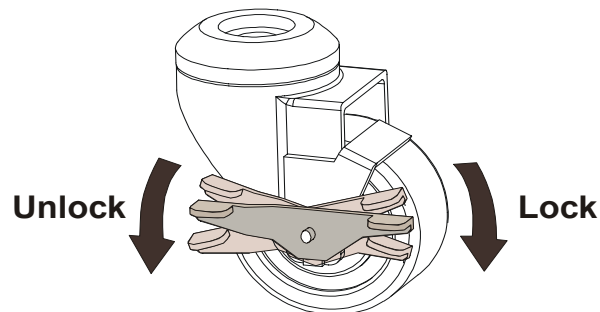
- position the 4000i cabinet (this page)
- install the guest laptop shelf (page 9)
- install the optional videoconferencing shelf (page 11)
- remove the rear access panel (page 14)
- install the projector (page 15)
- install the internal computer (page 22)
- connect a guest laptop (page 23) (optional)
- install another video device, such as a VCR, DVD player or document camera (page 25) (optional)
- connect a printer (page 27) (optional)
- connect to a network (page 28) (optional)
- connect an external sound system (page 29) (optional)
- connect an external projector or monitor (page 30) (optional)
- power up the 4000i (page 31)

No matter what peripherals you install, you must finalize your installation before you can use the 4000i. Read the next section of this guide (page 32) for that information.

Positioning the 4000i

After you've removed and unpacked the cabinet from its shipping carton (following the *Unpacking Instructions*), wheel the system to an appropriate location for setting it up. This location should be within reach of a power outlet and have sufficient space around the cabinet so you can comfortably access all sides.

When the 4000i is in this location, lock the casters by pressing the caster tab locks on the wheel. If you need to unlock the casters, press the other side of this tab.

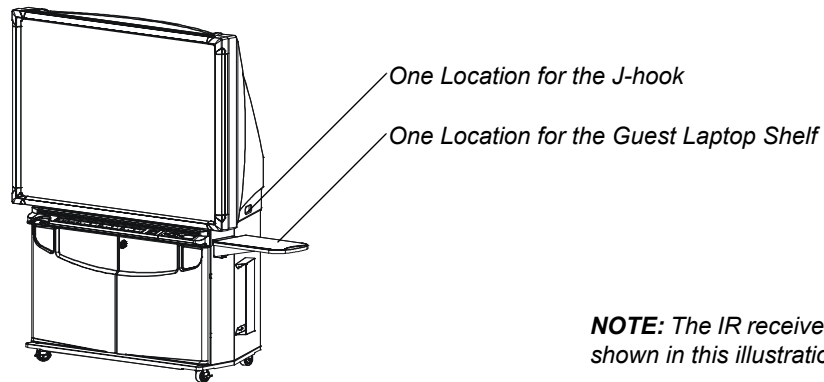


NOTE: As a safety precaution, and for greater ease of use, you should keep the casters locked while you install devices and use the 4000i.

Installing the Laptop Shelf

You can install the laptop shelf on either side of the cabinet. You should install the shelf *before* you install the computer, because it's easier to remove the plastic hole covers when the computer is not inside the cabinet. If you install the shelf on the right-hand side (when you face the interactive whiteboard), take care not to knock the infrared (IR) receiver that's installed on the lower corner of the screen.

You can also attach the J-hook to the handle recess so you can route the umbilical cables through this hook to the guest laptop shelf. You'll find this hook in the accessory kit.

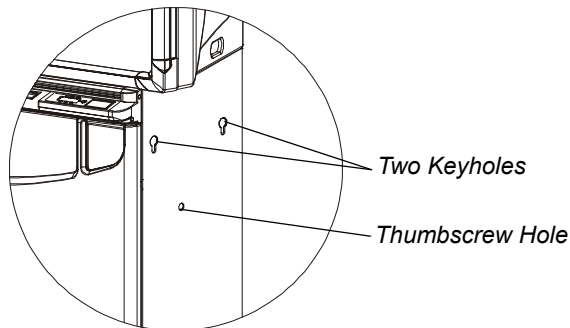


NOTE: The IR receiver isn't shown in this illustration.

Figure 6: The Location of the Guest Laptop Shelf and J-Hook

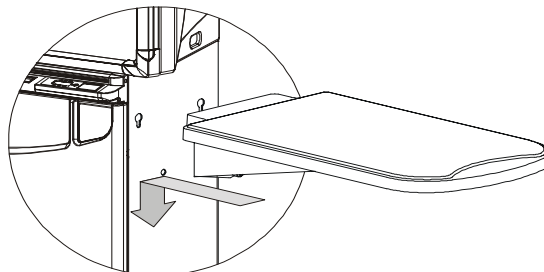
To install the guest laptop shelf

1. Locate the two laptop shelf keyholes and the single thumbscrew hole on the side of the cabinet. Remove the plastic hole covers.



NOTE: The IR receiver isn't shown in this illustration.

2. Push the two protruding bolts on the edge of the shelf into the two keyholes, and then push the shelf firmly down.

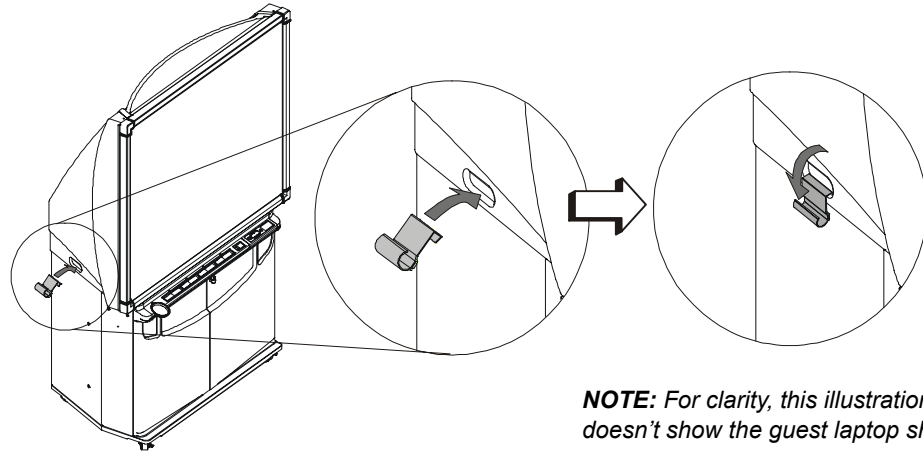


NOTE: The IR receiver isn't shown in this illustration.

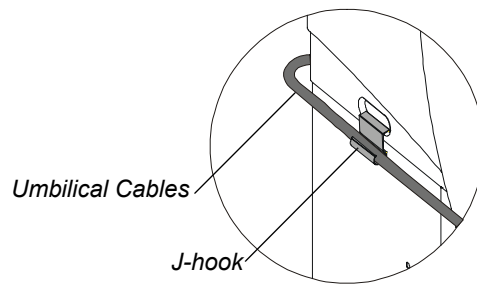
3. Push the captive thumbscrew at the bottom of the shelf into the thumbscrew hole and tighten.

To attach the J-hook

1. Insert the J-hook into the handle recess that's on the same side of the cabinet as the guest laptop shelf, and flip it into place.



2. Route the guest laptop umbilical cables through the hook.



Installing the Optional Videoconferencing Shelf

If you've ordered the optional videoconferencing shelf (either the large or the small one), you can install it on either side of the cabinet. The mounting arm of the shelf provides a convenient hidden channel for the camera cabling.

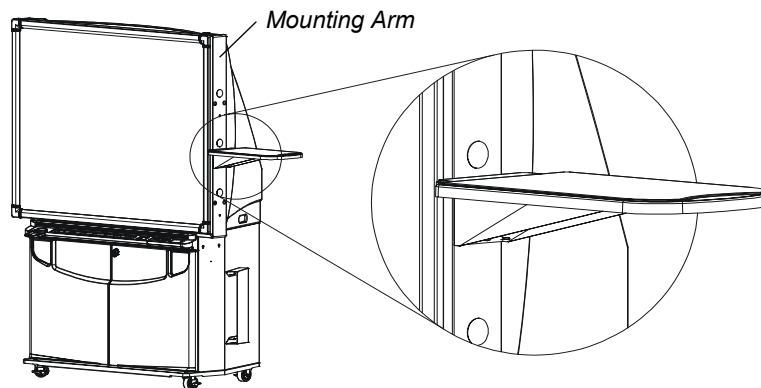
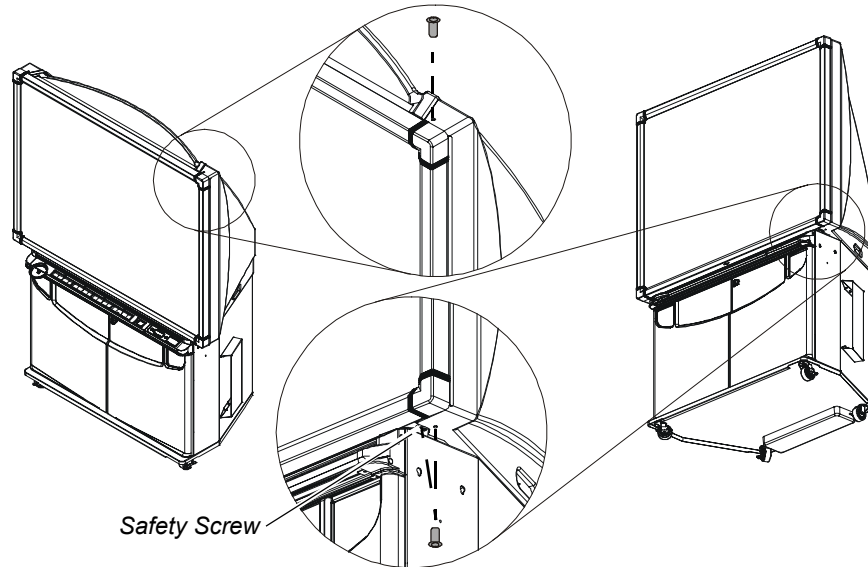


Figure 7: The Installed Videoconferencing Shelf

To install the videoconferencing shelf

1. Choose the side on which you want to mount the shelf. Also select which of the three height options you want to use.
2. Using the hex-head screwdriver that comes with your videoconferencing shelf kit, remove the three 1/4-20 x 1/2" fasteners as shown. Note that one of these fasteners is a safety screw.

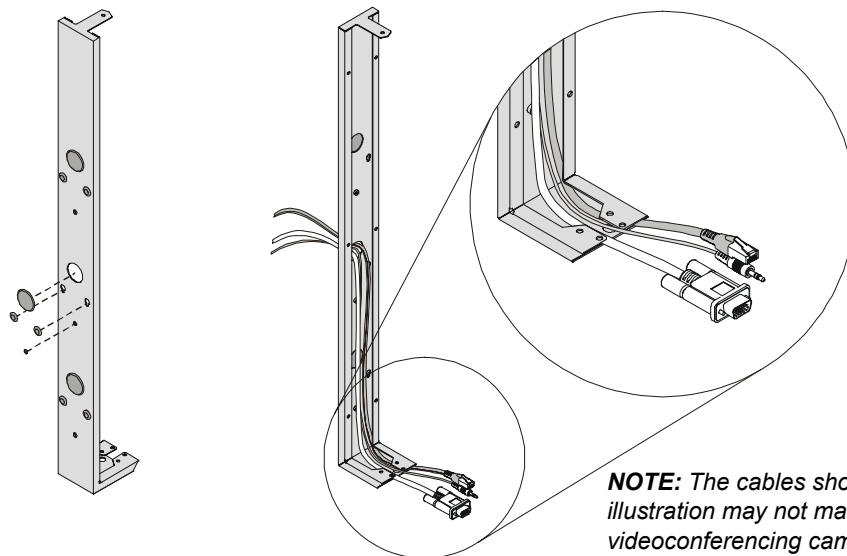


CAUTION

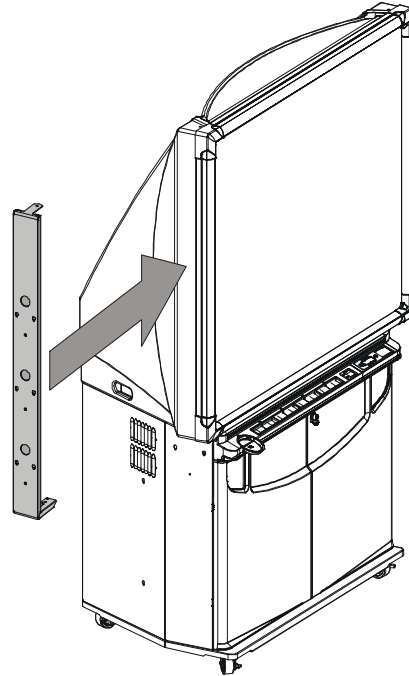


Do not move the cabinet until you replace the safety screw (step 6).

3. Remove the caps and plug from the mounting arm at the location where you want to mount the shelf. Feed the cables for the videoconferencing camera through the large hole, down the channel and out through the lower mounting point.

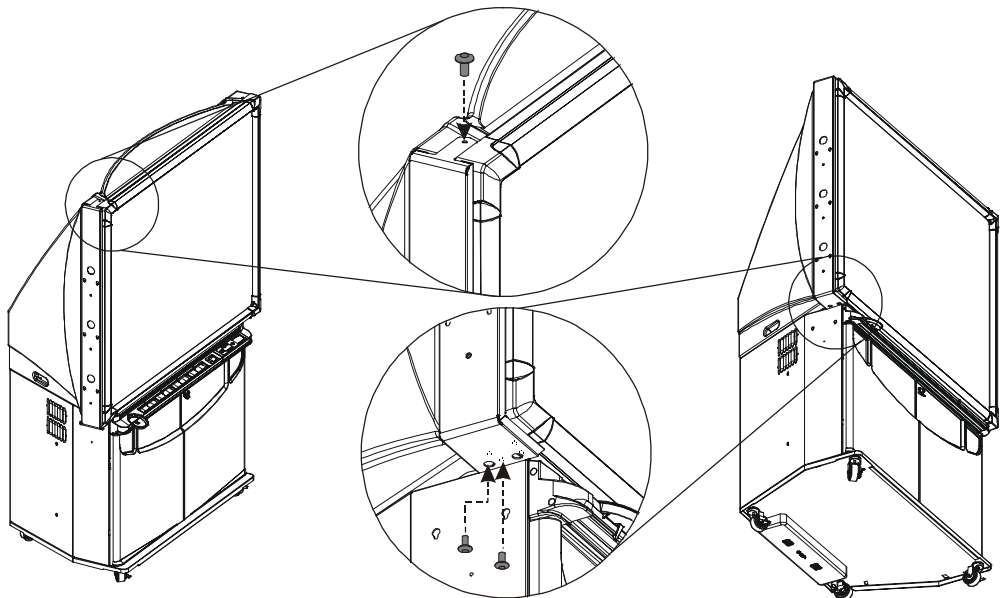


4. If you're installing the mounting arm on the same side as the IR receiver, detach the receiver and leave it temporarily dangling.
5. Carefully slide the mounting arm onto the side of the cabinet, ensuring that the cables remain in the channel and are not pinched.

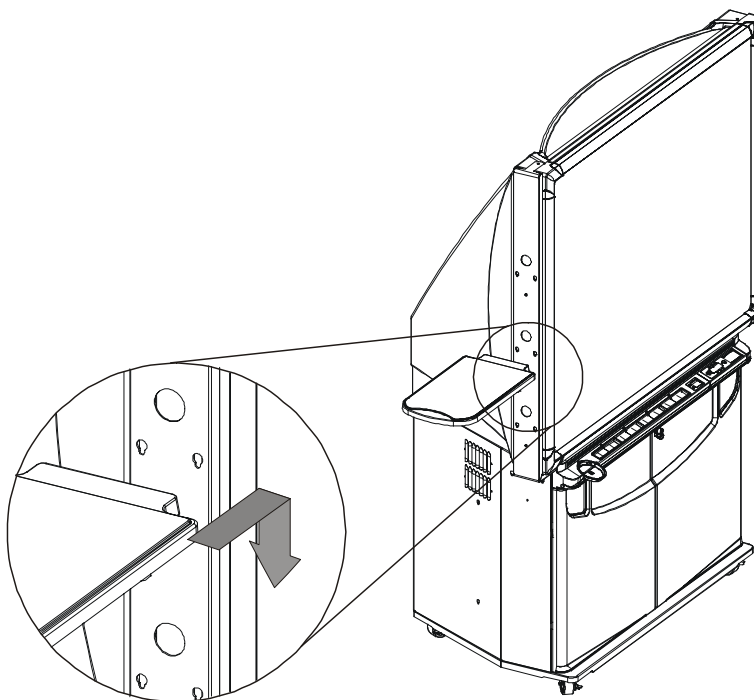


NOTE: For clarity, this illustration doesn't show the cables.

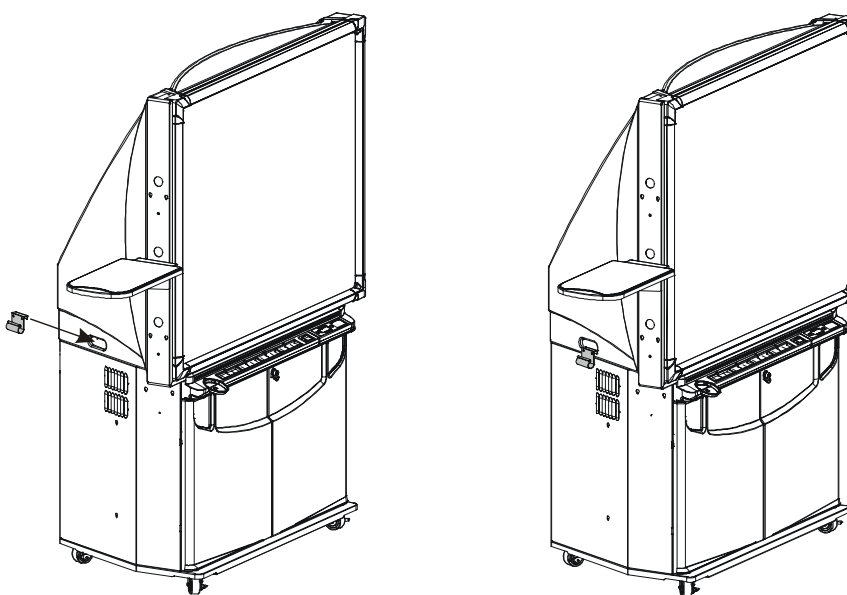
6. Use the three supplied 1/4-20 x 3/4" fasteners (from the videoconferencing shelf kit) in place of the 1/4-20 x 1/2" fasteners (removed in step 1) to secure the mounting arm to the cabinet. When you do this, you replace the safety screw, so you can now safely move the cabinet.



7. Hook the shelf to the keyholes in the mounting arm, tightening the thumbscrew to secure the shelf.



8. You can use the J-hook to manage the cables along the side of the cabinet. If you haven't already installed the J-hook, clip it to the handle on the side of the 4000i. Then route the cables through it to the connection panel at the rear of the cabinet.



9. If you detached the IR receiver in step 3, reattach it to the bottom of the mounting arm.

Removing the Rear Access Panel

You must remove the rear access panel before you can install devices inside the cabinet, such as the internal computer and the projector. After you install these devices, replace the rear access panel to keep your equipment secure.

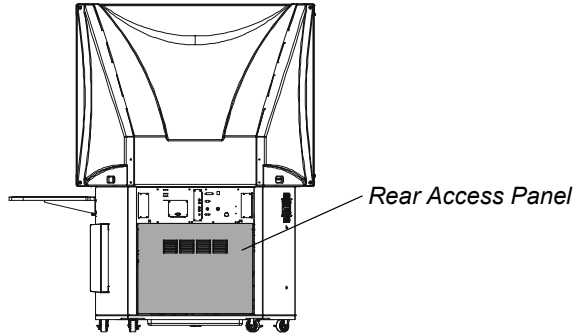
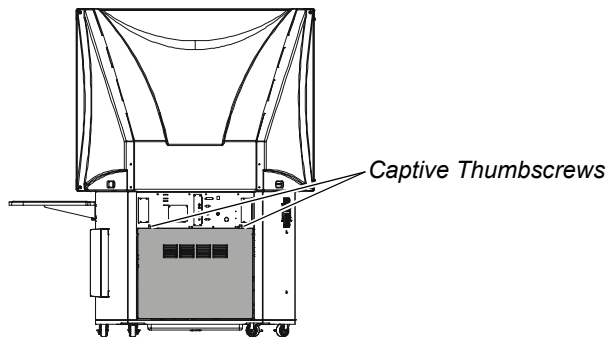


Figure 8: The Rear Access Panel

To remove the rear access panel

1. Loosen the two captive thumbscrews at the top of the rear access panel.



2. Tilt the top of the rear access panel toward you and then pull it upwards, releasing it from the cabinet.



TIP

To return the rear access panel to the cabinet, perform these steps in reverse order.

Installing the Projector

To install the projector, attach the mounting bracket to the cabinet, attach the projector to the mounting bracket, connect the cable extensions, and finally angle the projector towards the large mirror inside the cabinet.

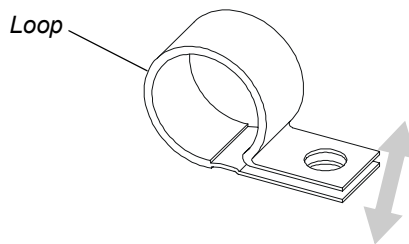


TIP

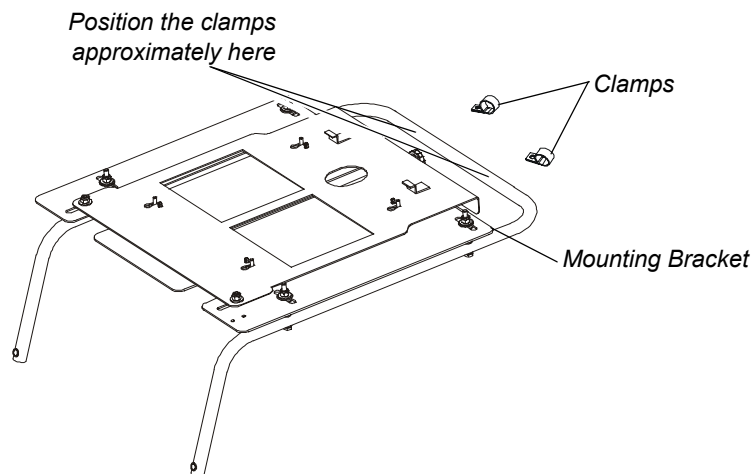
When you unpack your projector, you should keep the box and packing material in case you ever need to transport the projector.

To install the projector

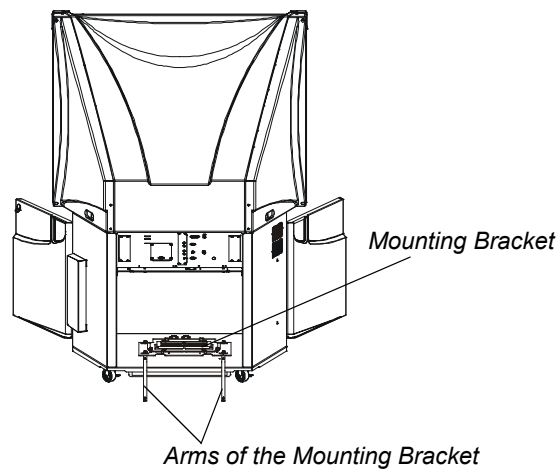
1. If you haven't already done so, remove the projector mounting bracket from its shipping location and the box. To do this, cut the straps that secure the projector for shipment.
2. Pull apart the loop in each of the two rubberized clamps from the projector accessory kit until each clamp fits around the mounting bracket.



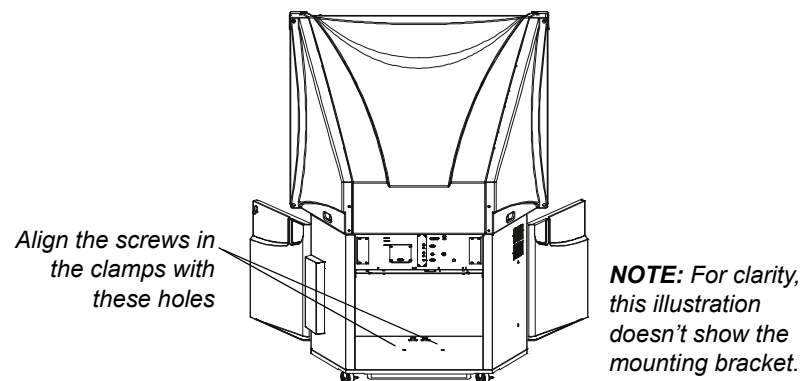
3. Slip the two clamps around the tube of the mounting bracket so that the flange on the clamp is aimed towards the mounting bracket.



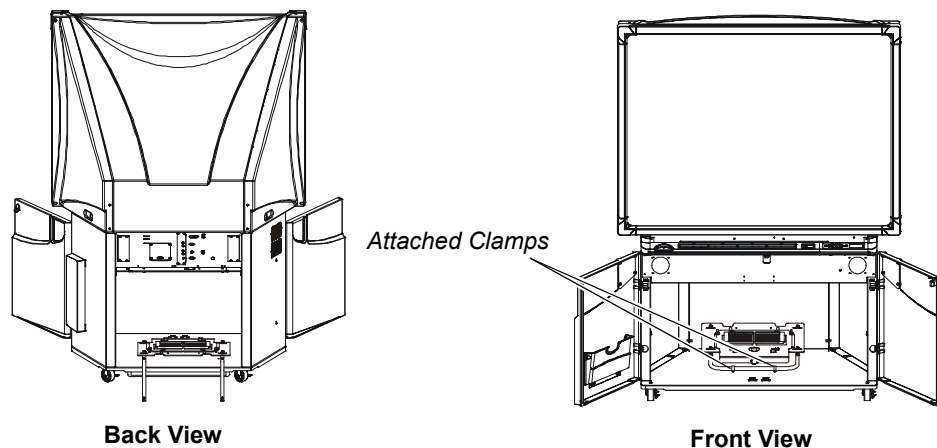
4. From the back of the 4000i (with the rear access panel removed), put the mounting bracket on the bottom of the cabinet. When you do this, rest the arms of the mount on the floor behind the 4000i.



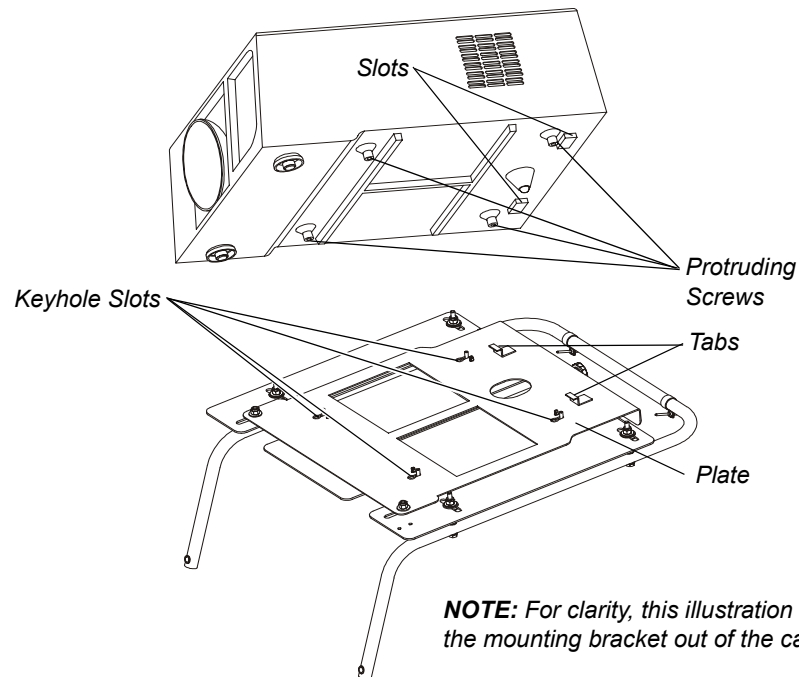
5. Align the holes in the clamps with the holes on the bottom of the cabinet and insert two of the 1/4-20 hex socket screws from the accessory kit into these holes. To do this, use a 3/16" hex key. However, don't tighten these screws yet.



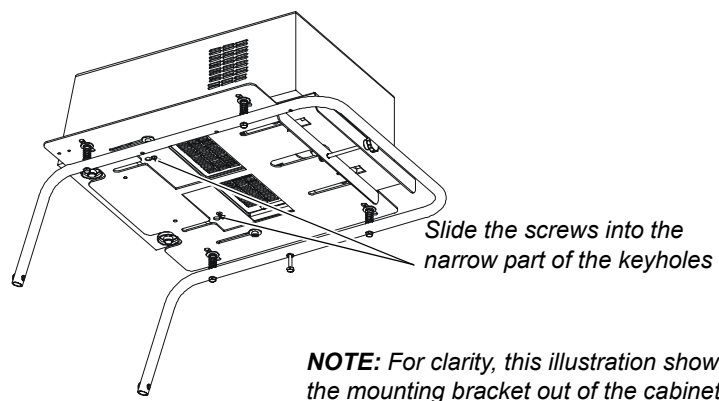
When you complete this step, your unit will look like this:



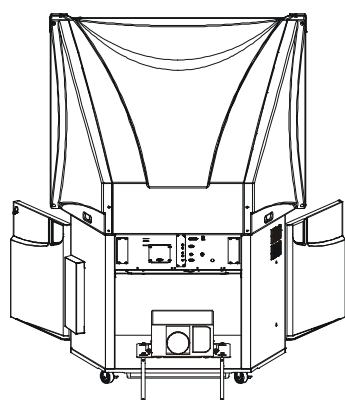
6. Slightly loosen the four protruding screws that are on the bottom of the projector.
7. Set the projector on the flat plate of the mounting bracket with the four protruding screws on the bottom of the projector slipping through the large part of the keyhole slots in the plate. Also ensure that the slots on the bottom of the projector fit around the tabs on the plate.



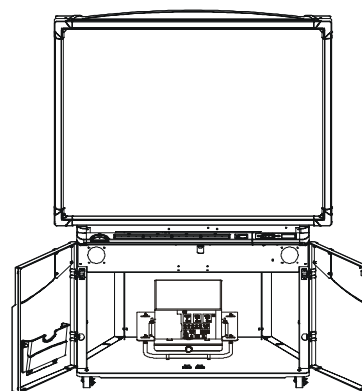
8. Slide the screws into the narrow sections of the keyholes. (You'll tighten these screws after you've adjusted the projector's position in step 14.)



When you complete this step, your unit will look like this:

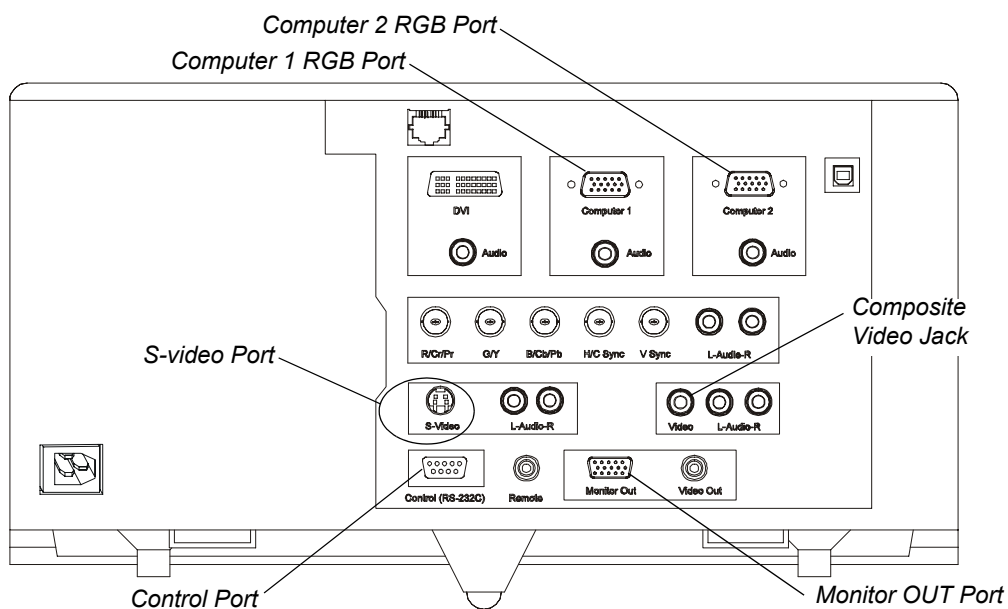


Back View

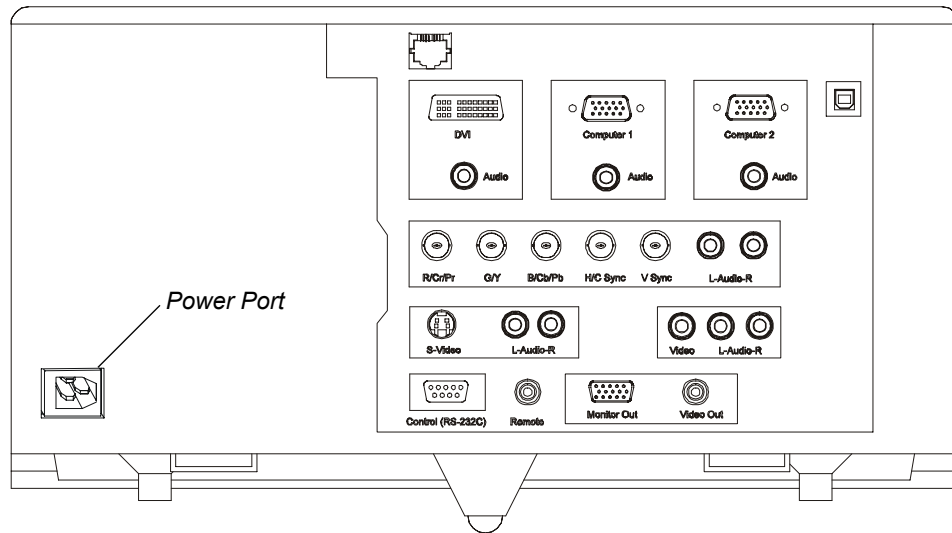


Front View

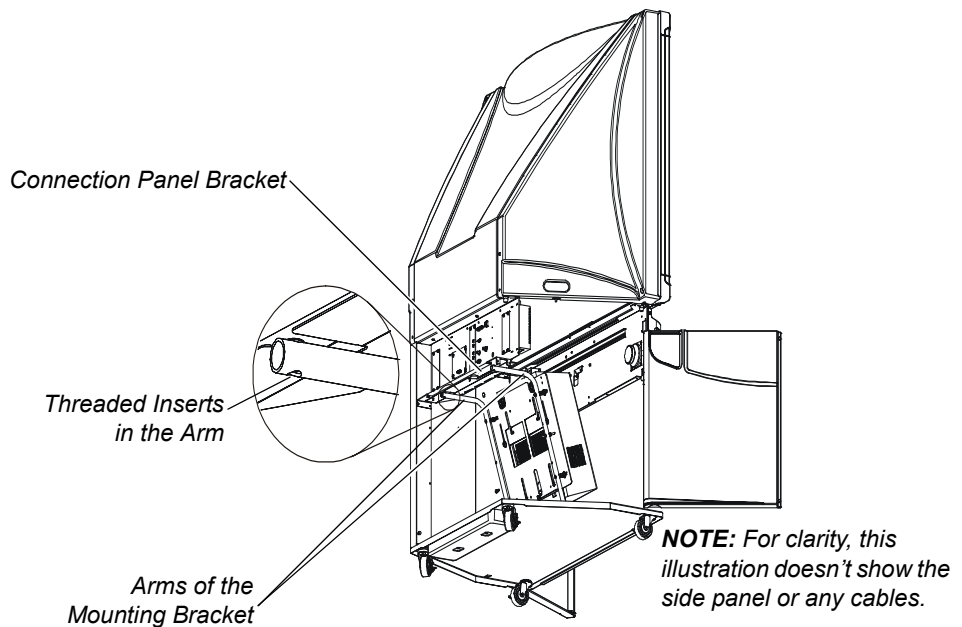
9. Locate the projector cable bundle that's on the left side of the cabinet (when you're facing the front of the unit) and connect:
 - the 15-pin male connector of the RGB video cable labeled **RGB2** to the projector port labeled **Computer 2**
 - the 15-pin male connector of the RGB video cable labeled **RGB1** to the projector port labeled **Computer 1**
 - the mini-DIN connector of the S-video cable labeled **S-video IN** to the projector port labeled **S-Video**
 - the RCA plug of the composite video cable labeled **Video IN** to the projector's yellow **Video** jack
 - the DB9F end of the RS-232 cable labeled **PC Control** to the **Control** port
 - the 15-pin male connector of the RGB video cable labeled **RGB OUT** to the projector port labeled **Monitor Out**



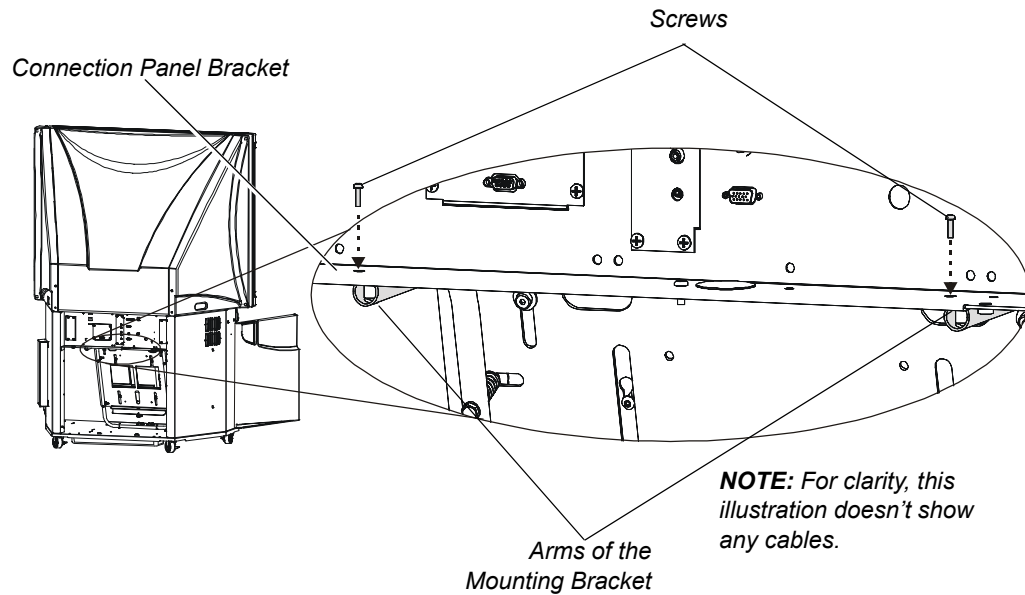
10. Connect the power cable labeled **Projector AC** to the projector's Power port. The other end should be connected to the power bar inside the 4000i.



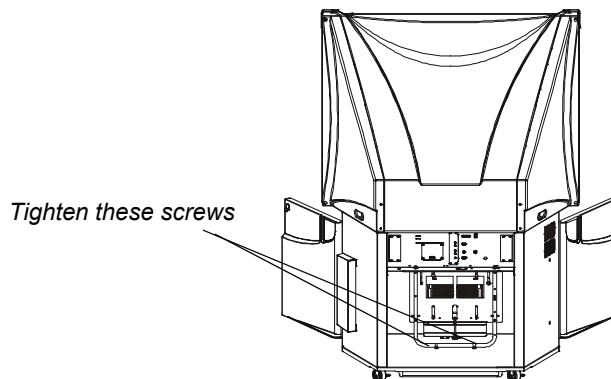
11. With the projector attached to the mounting bracket, gently tilt the mounting bracket up so that the threaded inserts on the arms align with the holes in the underside of the connection panel bracket.



12. Insert the two 1/4-20 hex socket screws from the accessory kit through these holes and into the threaded inserts in the arms, and tighten them using the 3/16" hex key.

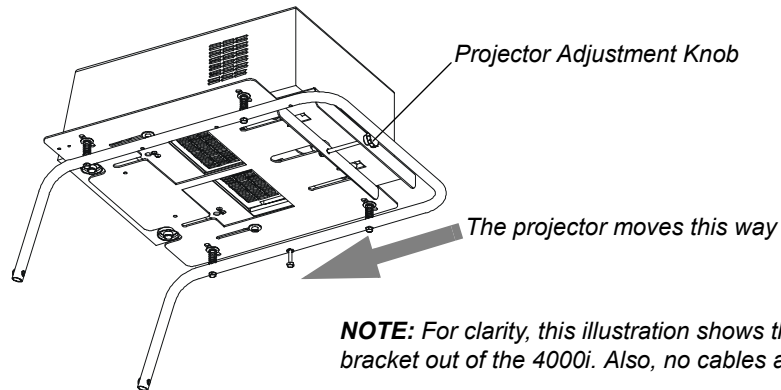


13. Tighten the screws that hold the mounting bracket to the cabinet using the 3/16" hex key. (You inserted these in step 5.)



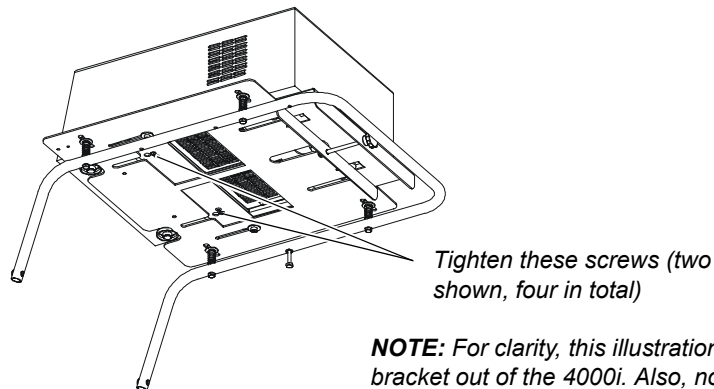
14. Slightly tighten the projector screws that protrude through the keyholes in the mounting bracket. To do this, use the M4 hex key from the accessory kit.

15. Turn the projector adjustment knob on the mounting bracket until the projector has moved about 3/8" (1 cm). (You'll fine-tune this setting on page 32.)



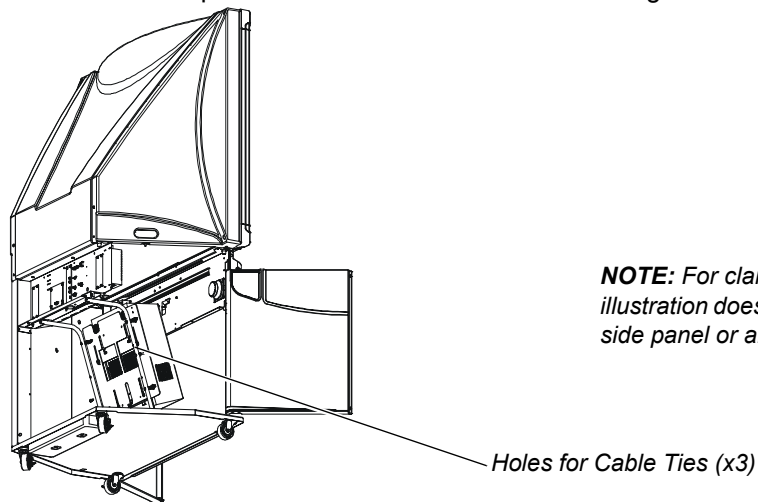
NOTE: For clarity, this illustration shows the mounting bracket out of the 4000i. Also, no cables are shown.

16. Tighten the four mounting screws that hold the projector to the mounting bracket using the M4 hex key.



NOTE: For clarity, this illustration shows the mounting bracket out of the 4000i. Also, no cables are shown.

17. Remove the lens cap from the projector.
18. Check that the cables that are connected to the projector have no sharp bends or stress points in the final position.
19. Route the cable bundles along the sides of the projector mount and snap the releasable tie wraps into the three holes on the mounting bracket.



NOTE: For clarity, this illustration doesn't show the side panel or any cables.

Installing the Internal Computer

When you install the internal computer, use the cable extensions that are bundled in the cabinet along with the computer's AC power cable.

Set your computer on the right side of the projector (when you're facing the front of the unit). At this location, you'll see straps that you can use to hold the computer in place during normal operation or when you're moving the 4000i from room to room. These straps won't secure the computer during cabinet shipment, so if you need to transport the 4000i, remove the computer before you ship it.

The data connection for the internal computer is an RS-232 serial cable. If your computer has USB ports, use the SMART USB adapter in the accessory kit. Connect the DB9 end of this adapter to the **Computer 1 Serial** cable and the USB end to your computer.

To install the computer

1. Slide the computer into the cabinet. Or, if you prefer, connect the cables with the computer outside of the cabinet (steps 2 through 8), and then slip the computer into place.

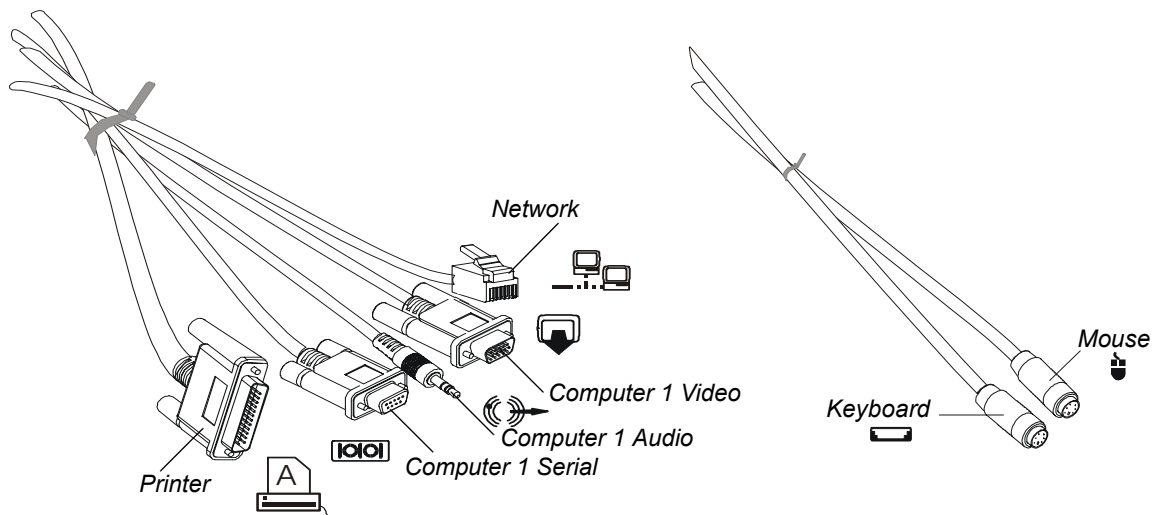


Figure 9: The Computer Cables

2. Connect the **Computer 1 Video** cable to the computer's Monitor Video port.
3. Connect the **Computer 1 Audio** cable to the computer's Audio Line OUT jack.
4. Connect the **Computer 1 Serial** cable to an available COM port on the computer.
5. Connect the **Printer** cable to the computer's 25-pin parallel (printer) port.
6. Connect the **Network** cable to the computer's network jack (if applicable).
7. Connect the **Mouse** and **Keyboard** cables to the appropriate PS/2 ports on the computer. The other ends of these cables connect to the wireless keyboard's IR receiver, which is installed at the side of the interactive whiteboard.
8. Connect the **AC** power cord to the computer's **Power IN** port.

9. Insert the two AA batteries from the keyboard accessory kit into the wireless keyboard and set the keyboard in the keyboard holder.

IMPORTANT



When you use the wireless keyboard, there must be a clear line of sight between it and the IR receiver. Otherwise the computer won't receive any keyboard input.

10. Tighten the straps around the computer to hold it in place.

Connecting a Guest Laptop

To hook up the guest laptop, connect it to the cables in the laptop umbilical bundle. When the 4000i detects a video signal from the laptop umbilical cable, it immediately switches to the laptop for audio, video and USB data control. See page 46 for details on using a guest laptop.

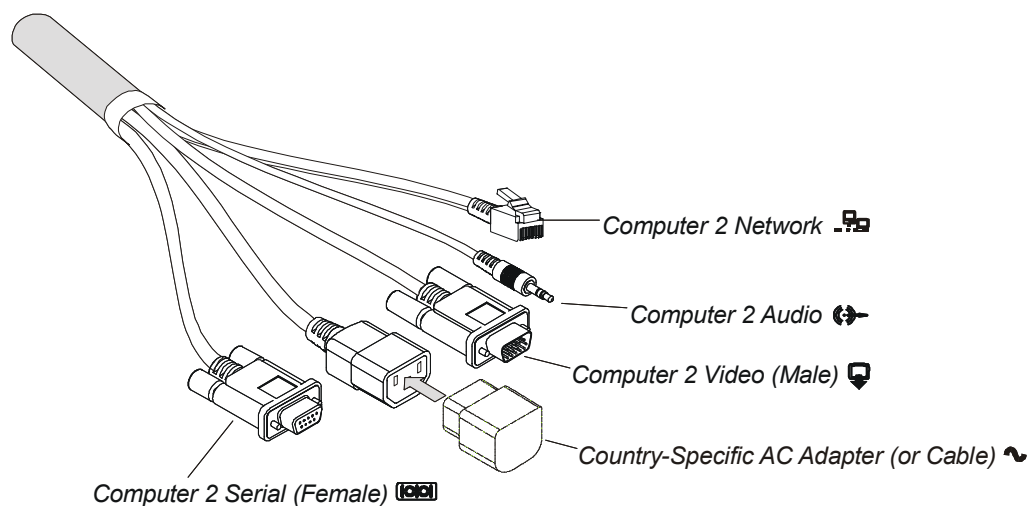


Figure 10: The Laptop Umbilical Cable Connectors

The 4000i includes a serial connection for the laptop, but you can supply a USB connection by connecting the SMART USB adapter from the accessory kit to the **Computer 2 Serial** cable, as shown in Figure 11. However, if you've used this adapter for the internal computer, you'll have to purchase another SMART USB-ADP adapter.

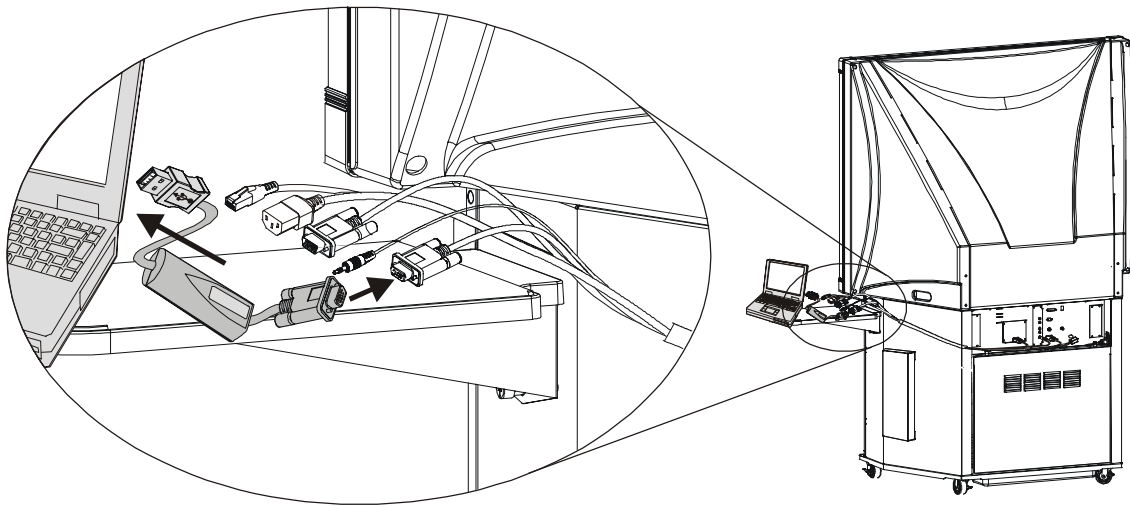


Figure 11: Connecting the SMART USB Adapter to a Guest Laptop

The 4000i comes with the umbilical cables already connected to the connection panel. However, if your cables become detached from the panel, see page 53 for instructions on reconnecting them. For details on using the guest laptop and troubleshooting image problems, see page 46.

To connect a guest laptop

1. Extend the laptop end of the umbilical from the rear of the cabinet until it reaches the laptop shelf. To do this, you may have to undo the strap that holds these cables to the connection panel. For convenience, you can route these cables through the J-hook at the side of the cabinet.
2. Connect the country-specific power adapter (provided in the power kit) to the end of the AC power cable.
3. Connect the five cables that make up the laptop end of the umbilical – the **Computer 2 Network**, **Computer 2 Audio**, **Computer 2 Video**, **Computer 2 Serial** and **AC Power** cables – to the appropriate ports and jacks on the guest laptop.
4. To enable network access for the laptop, connect a standard RJ45 network cable from a network outlet to the umbilical's network adapter (located at the rear of the cabinet).

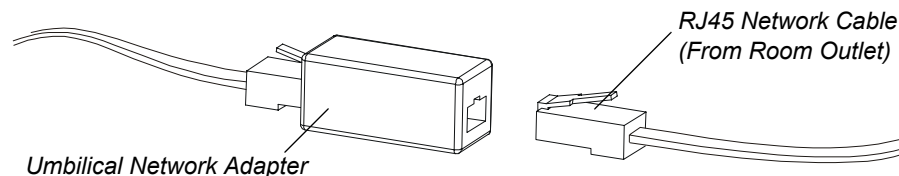


Figure 12: Connecting the Laptop Umbilical Cable to a Network Cable

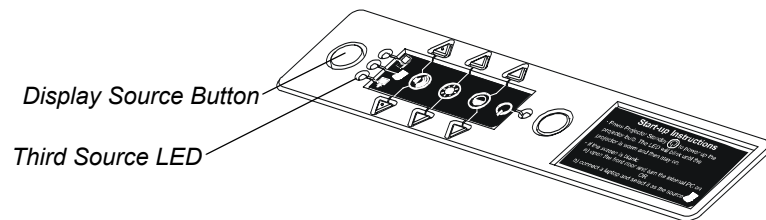
Connecting a VCR or DVD Player (Optional)

You can connect other video devices to the 4000i for display on the interactive screen. These devices could be a VCR, DVD player or document camera. The method of connection and the type of connector depend on the type of video signal that the device sends out. However, you must supply the required cable, because no external video cable comes with the 4000i.

You can connect either an S-video or composite source to the 4000i through the connection panel on the back of the cabinet. You can also connect a digital video interface (DVI), a composite and/or an S-video device directly to the projector. Read the *Epson 9300i Multimedia Projector User's Guide* for details on the type of DVI cable that you must use and how to connect the device to the projector.

If you connect a third input source to the 4000i, plug its cables into the connection panel, where extension cables carry the signal to the projector. If you aren't using the guest laptop shelf for an external computer, you can set the device there. (Route the video and audio cables to the connection panel, and use the power cable in the laptop umbilical bundle.)

If your third video source is connected to the 4000i with an S-video cable, you can view it on the interactive whiteboard by pressing the Display Source button until the LED beside the third video source is lit.



However, if you have a composite or DVI video source, you must select the third source *and then* use the projector's remote control to change the projector's source. The Display Source button on the 4000i's control panel will *not* switch the projector to a composite or DVI video source. Also, the next Display Source button press causes the projector to revert to its original settings. This means that if you want to return to the composite or DVI source, you must again press the Display Source button to return to the third video source *and* press the remote control button to switch the projector.

NOTE: Remember to turn on the remote control.

To connect a composite or S-video video device to the 4000i

1. If you're using a composite video cable (not provided), connect the yellow RCA video plug to the Video Output or "To Monitor" jack on the VCR/DVD player. Plug the other end of the cable into the **RCA Composite Video IN** jack on the connection panel (see Figure 13).

If you're using an S-video cable (not provided), connect it to the S-video Out port on the VCR/DVD player. Plug the other end directly into the **S-video IN** port on the connection panel (see Figure 13).

2. Connect standard RCA audio cables (not provided) from the RCA Audio Output jacks on the VCR/DVD player to the two **Audio IN (L/R)** jacks on the connection panel. Keep your right and left channel connections consistent for stereo sound (see Figure 13).

NOTE: You can only connect an audio cable from *either* a VCR or a DVD player, but not both. The connection panel only accommodates the RCA jacks from one external audio input source.

3. Connect the VCR/DVD player power cable to the power bar (if there's a free outlet) or to a room outlet.

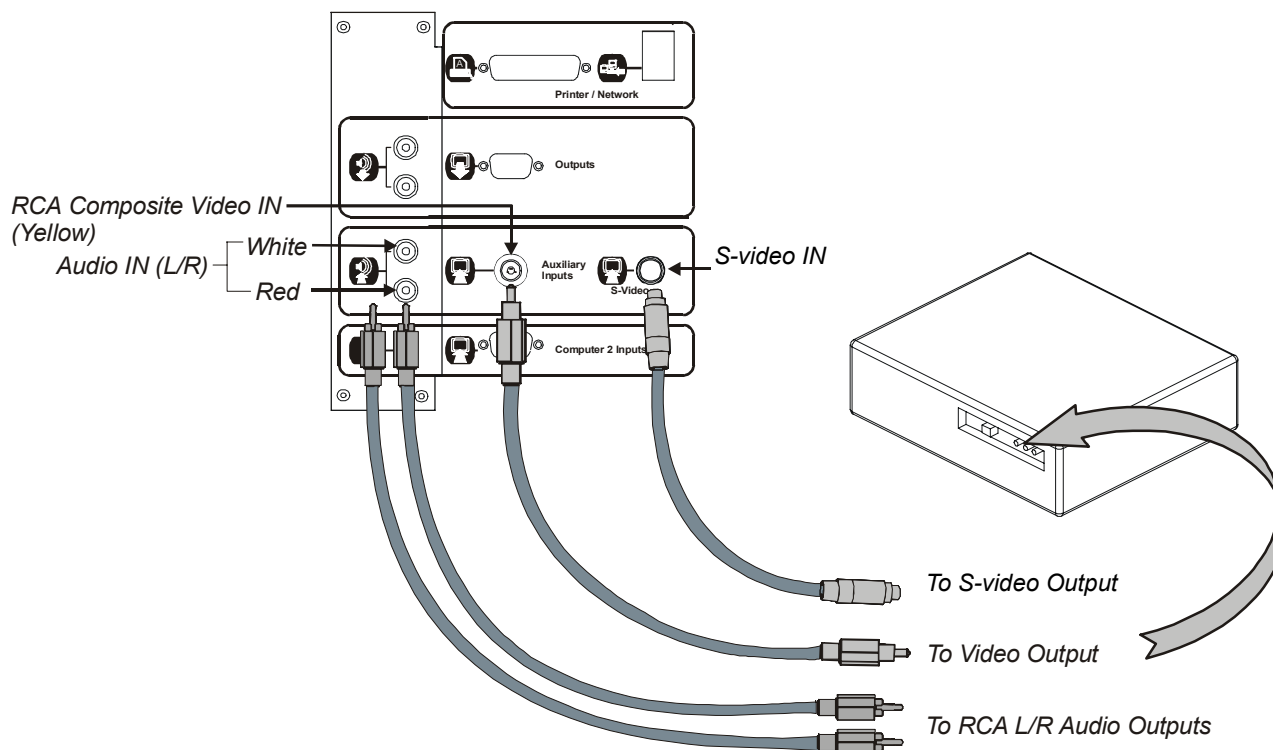


Figure 13: Connecting a VCR or DVD Player



4. Press the **Display Source** button on the control panel until the LED indicator next to the Video IN symbol (Source 3) is lit. (See page 45 for more information on changing the display source.)

To connect a DVI video source to the projector

1. Connect the DVI cable to the video device following the instructions that came with your device.
2. Connect the other end of the DVI cable to the projector.

Read the *Epson 9300i Multimedia Projector User's Guide* for details on the type of DVI cable that you must use and how to connect the device to the projector.

Connecting a Printer to the Internal Computer (Optional)

You can connect a standard DB25 printer cable (not provided) from the printer's parallel port to the **Printer** port on the connection panel. This makes the printer available for the internal computer only. The 4000i doesn't switch control of the printer, so you can't access it with a guest laptop.

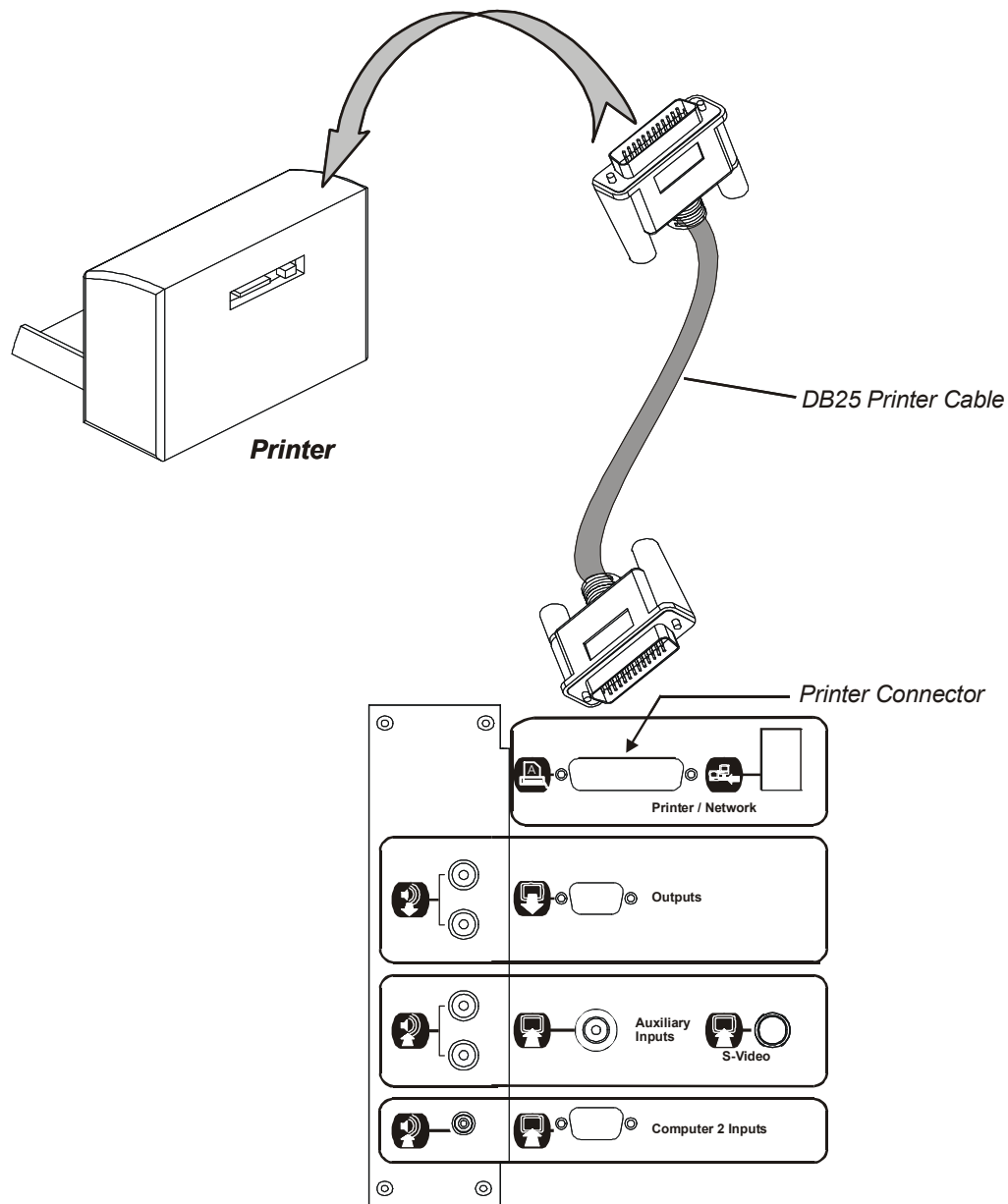


Figure 14: Connecting a Printer

NOTE: If you use a USB printer, you can connect it directly to the internal computer.

Connecting the Internal Computer to a Network

You can connect a standard male-to-male RJ45 network cable (not provided) from the room's network outlet to the **Network** jack on the connection panel. When you do this, the internal computer can access the network.

To connect the laptop umbilical cable to a network outlet, see Figure 12 on page 24.

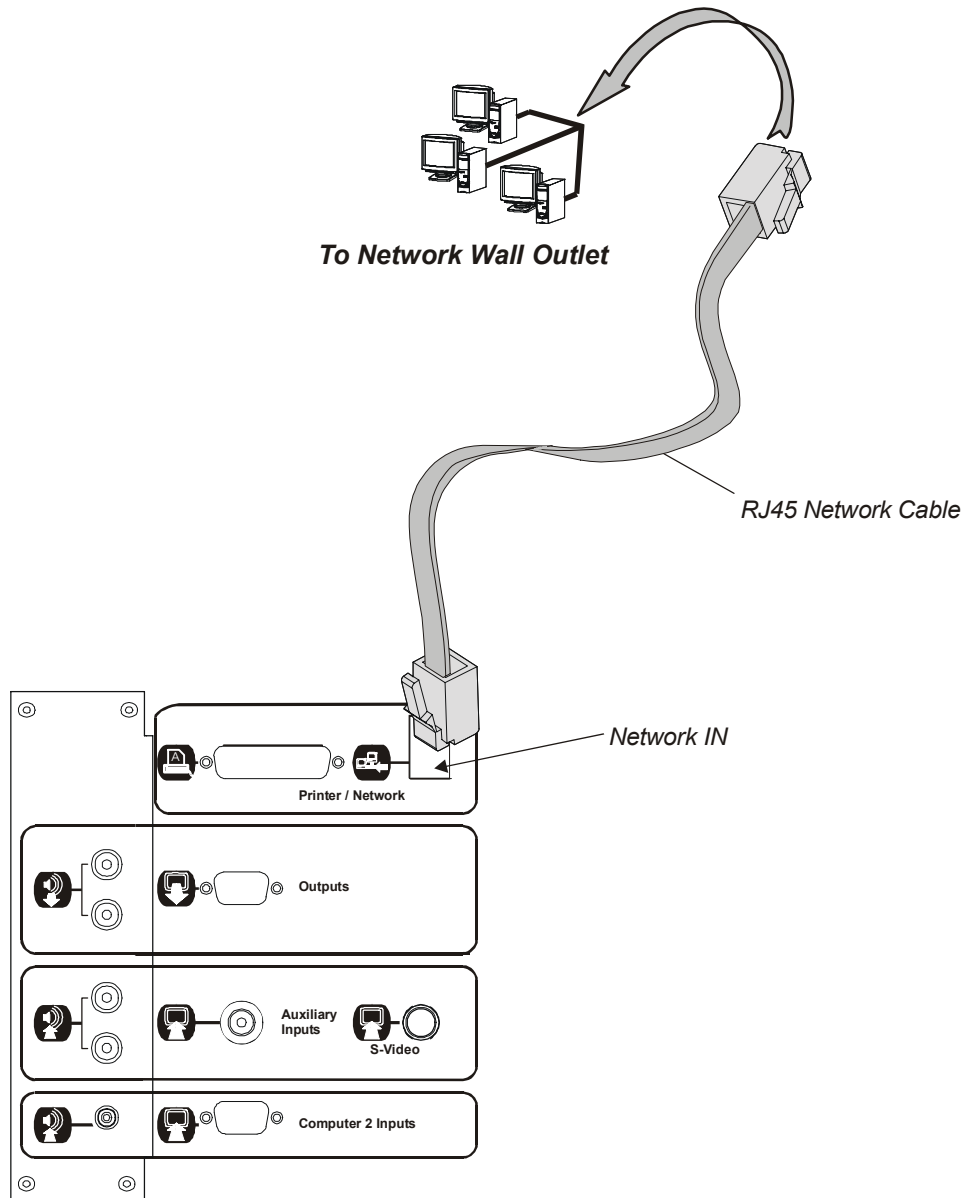


Figure 15: Connecting to a Network Outlet

Connecting an External Sound System (Optional)

The sound from your selected input source goes into the 4000i's audio board where the signal is amplified sufficiently for the levels needed by the internal speakers. However, to send the audio signal to an external, unbalanced sound system, connect standard RCA audio cables to the audio **Outputs** on the connection panel. Keep your right and left channel connections consistent for correct stereo sound.

NOTE: Because the audio signal from the 4000i is unbalanced, you should connect to an unbalanced audio device or a balancing amplifier.

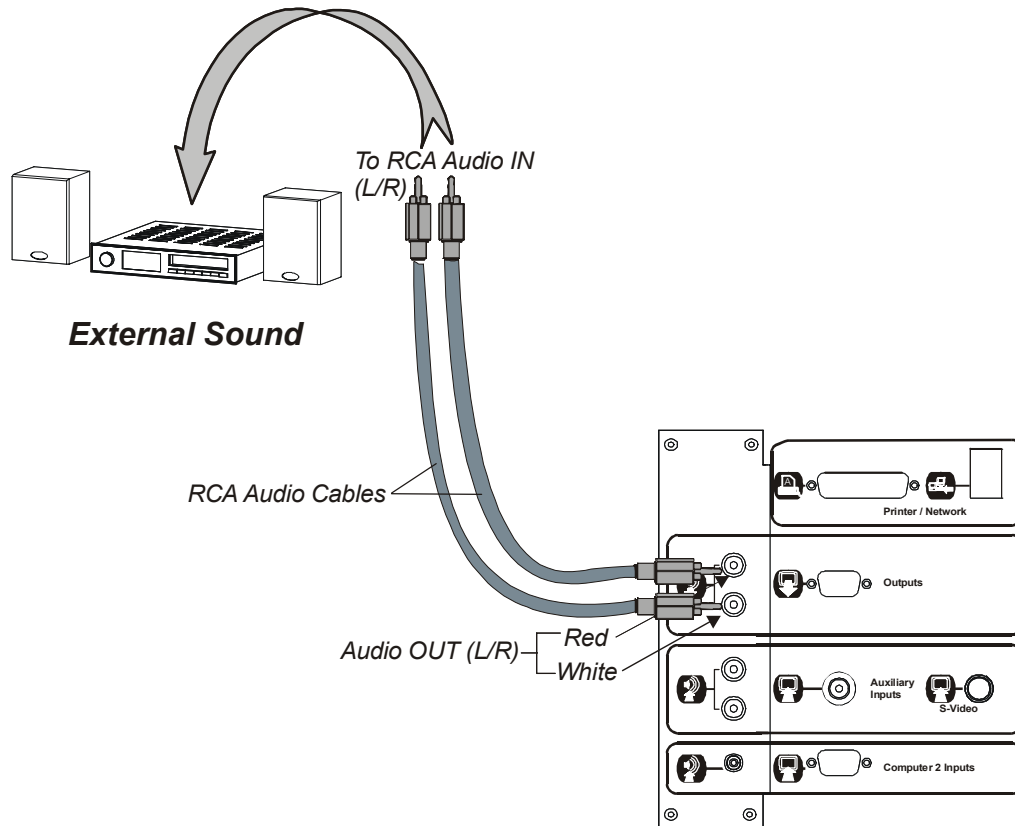


Figure 16: Connecting a Room Sound System

Connecting an External Monitor or Projector (Optional)

You can send the video signal to another RGB video source, such as an external projector or a monitor. To do this, connect a 15-pin male video cable (not provided) from the external projector or monitor to the 15-pin female video **Outputs** port on the connection panel. This connection is for RGB output only.

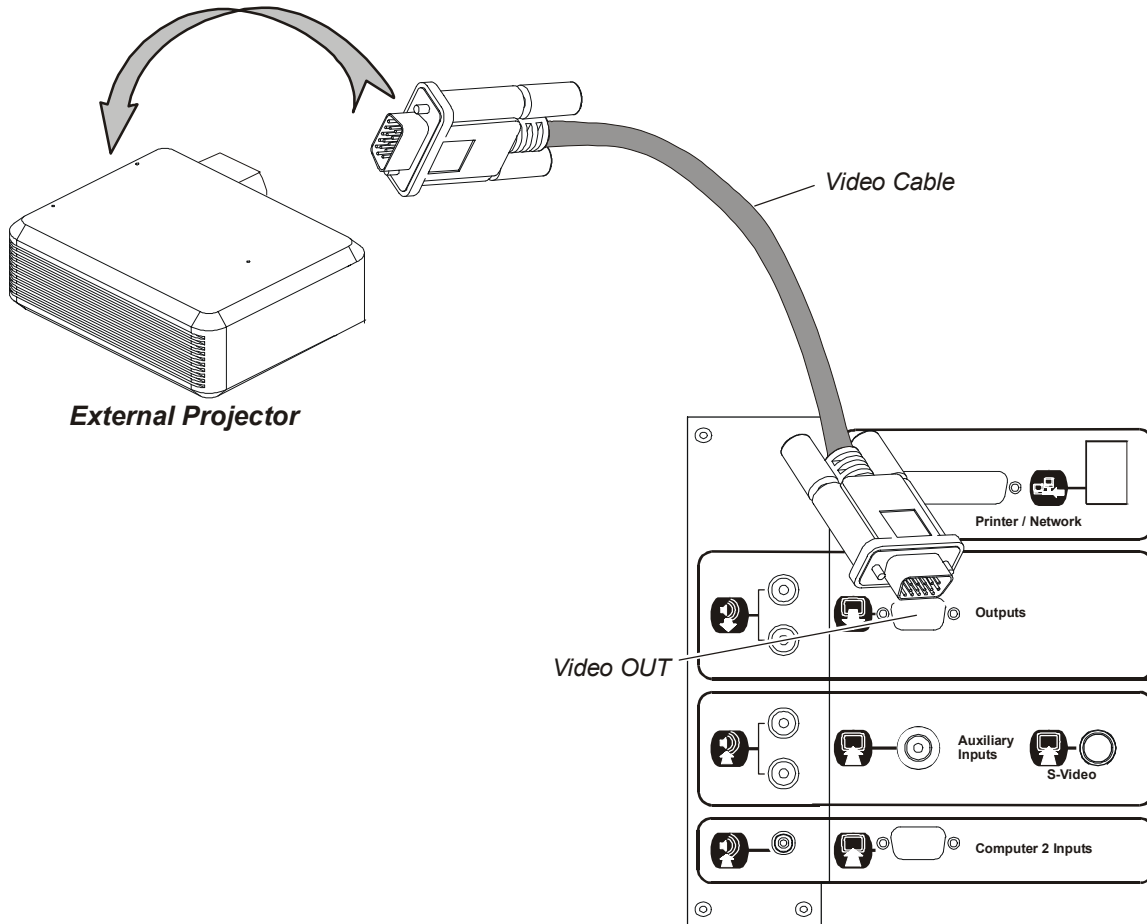


Figure 17: Connecting an External Projector

TIP



You may need to activate the projector's video output by pressing a button on the projector's remote control.

Powering up the 4000i

When you've connected all your devices to the 4000i, you're ready to connect the main power cable and power up the internal computer and the projector. After you do this, you must finalize your installation, as described in the next section (page 32).

To connect the main power cable

1. Locate the AC power cord in the power kit.
2. Plug this cord into the **Main Power IN** port, located to the right of the connection panel.

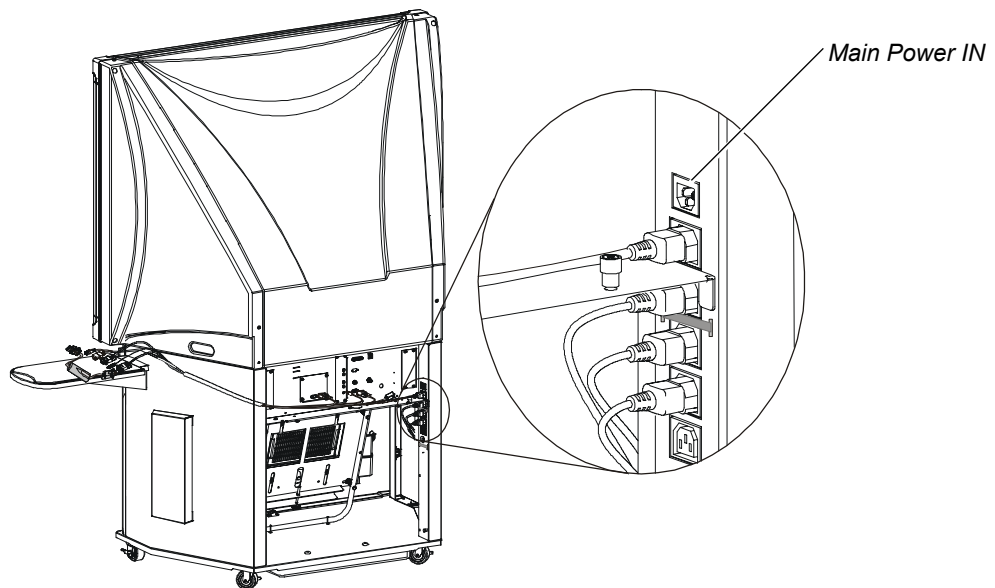


Figure 18: The Location of the Main Power Inlet

3. Plug the other end of the power cord into an electrical outlet.
The Power LED on the projector should glow orange, indicating that it's receiving power.
4. Turn on the computer.
5. Remove the projector lens cap, if you haven't already done so.
6. Power on the projector by pressing the **Power** button on the projector's remote control.

NOTE: Make sure the remote control is turned on.

The Power LED on the projector flashes green while the projector warms up (about 40 to 100 seconds). This LED will glow solid green when the projector is ready to use, and you'll see an image on the interactive whiteboard.

If you don't see an image after about a minute, press the **Projector Standby** button on the control panel. The LED indicator beside this button should blink for 40 seconds, and then remain steadily illuminated after the projector lamp powers up.

Finalizing the Installation

With your computer and projector on, you must finish setting up your *Rear Projection* SMART Board 4000i interactive whiteboard. To do this, you must:

- adjust the projected image (if necessary) (this page)
- customize the A/V mute screen (optional) (page 35)
- configure the computer and the projector settings (page 36)
- install SMART Board software on any connected computer (page 37)
- configure the computer port (if SMART Board software doesn't do this automatically) (page 38)
- orient the interactive whiteboard (page 39)
- match the resolution of the computer to that of the projector (if necessary) (page 40)

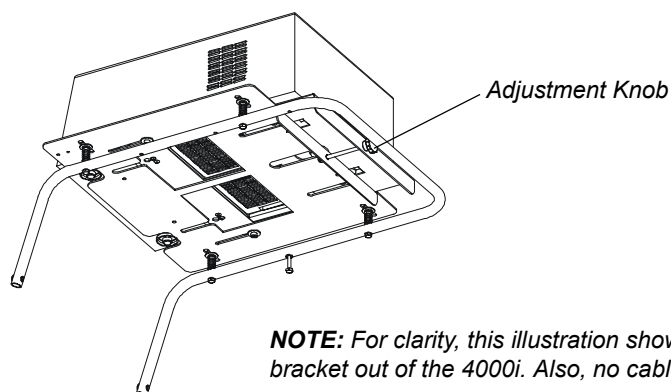
After you've made these adjustments and configurations, your 4000i is ready for use. Read the section entitled *Using the 4000i* on page 41 for details on how to use the unit.

Adjusting the Projected Image

After you've installed your projector, you must make a few adjustments to ensure that the image on the interactive whiteboard is the right size (this page), in the proper position on the screen (page 33), not lopsided (page 34), and in focus (page 34).

To adjust the image size

If the image on the screen is too large, turn the adjustment knob on the projector's mounting bracket counterclockwise. If the image is too small, turn the adjustment knob clockwise.

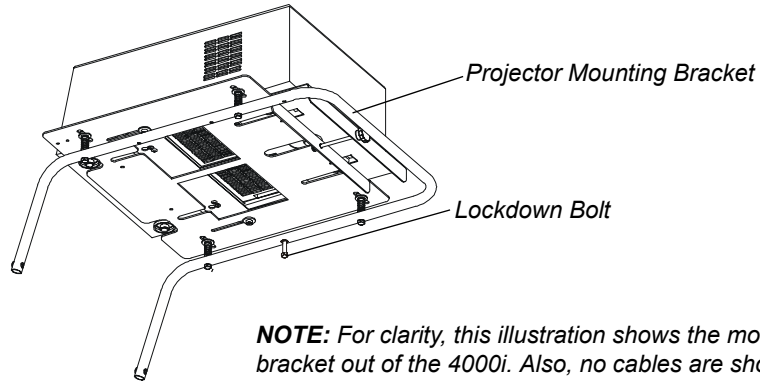
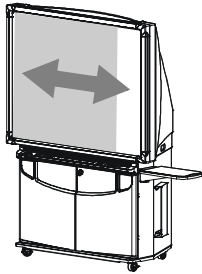


NOTE: For clarity, this illustration shows the mounting bracket out of the 4000i. Also, no cables are shown.

Figure 19: Adjusting the Projected Image Size

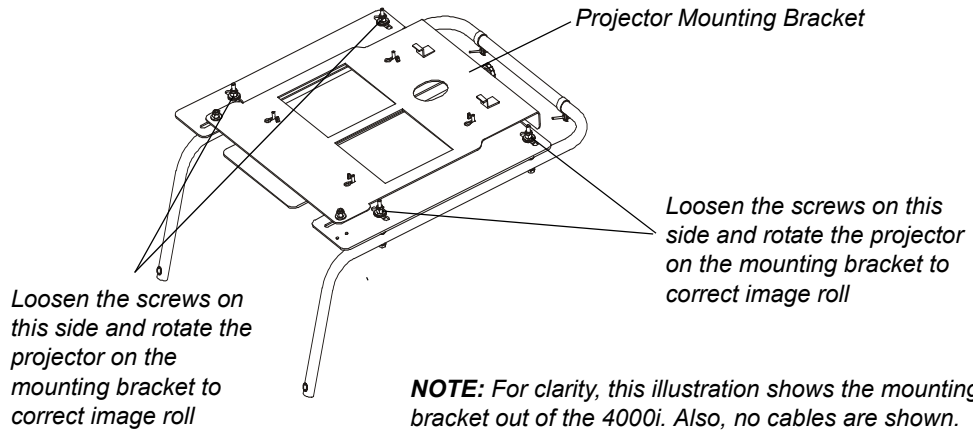
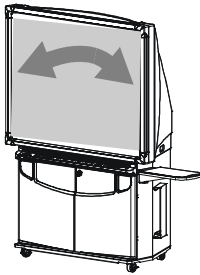
To adjust the image position

1. Loosen the lockdown bolt on the underside of the projector mounting bracket using a 7/16" wrench (in the accessory kit).



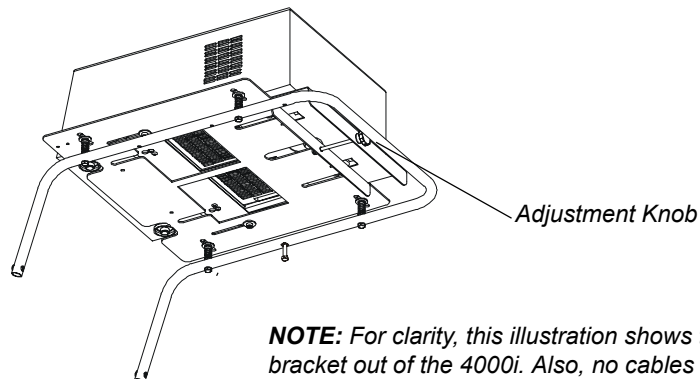
NOTE: For clarity, this illustration shows the mounting bracket out of the 4000i. Also, no cables are shown.

2. With these fasteners loosened, shift the entire projector mounting bracket to the right or to the left.
3. If you need to slightly adjust the rotation of the projected image (its roll), you can tighten the spring-loaded screws on one side and then shift the projector.



NOTE: For clarity, this illustration shows the mounting bracket out of the 4000i. Also, no cables are shown.

4. After you've made these vertical adjustments, check the image on the interactive screen. You may need to turn the adjustment knob on the projector mount to make the image appear larger or smaller.



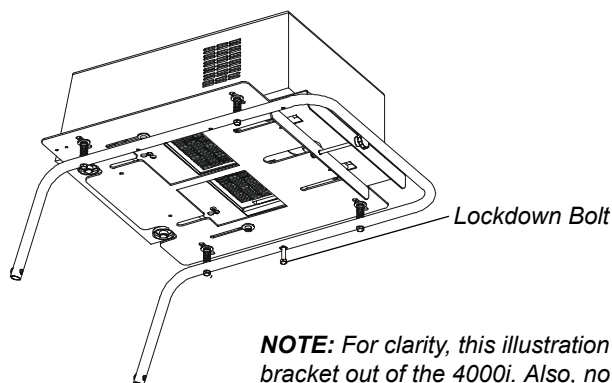
NOTE: For clarity, this illustration shows the mounting bracket out of the 4000i. Also, no cables are shown.

TIP



You can make fine adjustments to the projected image by pressing the **Lens Shift** button on the projector's remote control.

5. Tighten the lockdown bolt to prevent the projector plate from shifting.



CAUTION

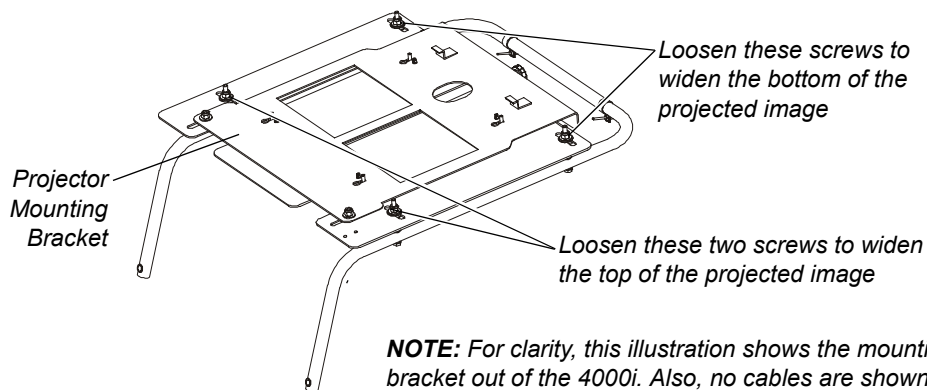
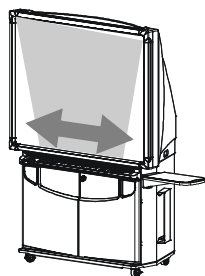


Don't overtighten the lockdown bolt. This bolt only needs slight pressure to hold the plate in place.

To adjust a lopsided image (keystone correction)

1. Adjust the appropriate spring-loaded screws that hold the mounting bracket using the 7/16" nut driver from the accessory kit (see the illustration).

When you do this, make sure you adjust the screws evenly.



To focus the image

To correct focus problems, adjust the projector's front focus ring until the image appears correct.

Customizing the A/V Mute Screen

You can customize the A/V mute image that's displayed when the projector isn't receiving a video signal or when it's powering down. For example, you could display a company logo or a particularly relaxing or inspirational image that you've captured from any connected device. These devices could be a computer or a DVD player. In fact, you can capture any image that you can display through the projector.

To display a custom image as the A/V mute image

1. With the image you want displayed on the interactive whiteboard, press the **Menu** button on the projector's remote control.
NOTE: Make sure you turn on the remote control.
2. Select **User's Logo** and press the **Enter** button.
3. Follow the on-screen instructions, using the buttons on the remote control (**Enter** and the pointer buttons) to select your options. To exit the capture screens or the menu, press the **ESC** button. When you see the **Completed** message, press the **ESC** button to return to the menu screen.
4. Select **Advanced 1** and press the **Enter** button.
5. If you want the image to display during the projector's warm up period, select **Startup Screen > On** and then press the **Enter** button.
6. Select **Setting** and press the **Enter** button.
7. Select **No-Signal Message > A/V Mute**.
8. Select **Logo** and press the **Enter** button.
9. Press the **ESC** button.

Configuring the Computer and Projector Settings

For optimal configuration of the 4000i, this section includes a number of recommended settings for both your computer and the projector inside the 4000i. With these settings, you can balance ease of use with conservation of energy and preservation of projector lamp life.

For example, you can configure the power management and energy saving settings of your computer so that it stops sending out an RGB video signal and turns off the hard drive(s) after a period of inactivity. Your projector then turns off its lamp if it doesn't receive a video signal for 30 minutes. Even though the projector and the 4000i are in standby mode, you can press the Projector Standby button to quickly return both units to their normal operating states.

Recommended computer settings

You should keep the internal computer on all the time, but set it to turn off the monitor **after 1 hour** of inactivity, and to put the hard disk(s) into standby mode **after 2 hours**. This extended time period avoids an unexpected computer shutdown during presentations, video-conferences or lengthy meetings with gaps in computer activity. When this computer is the 4000i's active display source and this period of inactivity for the monitor is reached, the computer stops sending an RGB video signal to the projector. This lack of a video signal triggers the projector to wait for 30 minutes, and then go into reversible standby mode (projecting a configurable A/V mute screen on the interactive screen for five minutes). Finally, the projector goes into standby mode.

To change your computer settings, if you're using a Windows computer, you can access the **Properties** dialog box for your display and adjust the energy saving features and the power management properties. For Macintosh computers, adjust the settings in your **System Preferences** application. For precise instructions on changing these settings, read the documentation that came with your operating system.

TIP



If you decide to keep your computer on, you should occasionally restart it to reload the operating system.

NOTE: Because you can't adjust the power settings on a Windows NT 4.0 system, you must fully power on the computer to use the 4000i, and then shut it down when you're finished or at the end of the day.

Of course, if you don't want to keep the internal computer on, you can shut it down (and power it off, if necessary). In this case, the next time you use the 4000i, you must open the front door and turn on the computer.

Regardless of whether you shut down the computer or not, you should *not* use a screen saver. With a screen saver, the monitor doesn't shut off, and so it won't trigger the lamp shut down. Also, a screen saver has no bearing on a projected system, which isn't affected by image burn-in in the way monitors and flat-panel displays are.

Recommended projector settings

When you receive the 4000i, the projector settings are optimized for you. However, if these settings are altered, you may need to reset them (see page 55).

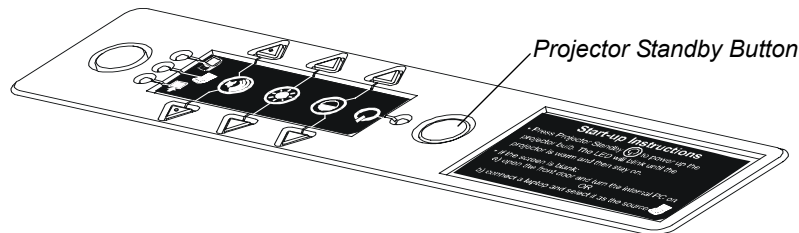
IMPORTANT Do not modify the following projector settings:



- **Standby Mode**, which must be set to **Network ON**
- **Contrast**, which must be set to **Manual**

The **Network ON** setting allows the projector to go into standby mode instead of completely powering down. With this setting, you can activate the projector by pressing the convenient **Projector Standby** button on the 4000i's control panel, instead of using the projector or remote control power buttons to turn the projector on or off.

When you press the **Projector Standby** button, you turn on the projector lamp if it's off or, if it's on, you either put it into the reversible standby mode or into the cooling mode. (For details on using the Projector Standby button, see page 42.)



If you must restore the Standby Mode setting to **Network ON**, follow the procedures on page 55. For information on the states of the projector, see Table 1 on page 7. To learn more about what happens when you press the **Projector Standby** button, see Table 2 on page 42.

Your projector lamp should last 7,000 hours. However, to help conserve lamp life, we've configured the projector to shut off its lamp if a video signal isn't received for 30 minutes.

NOTE: You should cover the projector lens with the lens cap and disconnect the cabinet from the power source if you won't use the computer and projector for an extended time period. See page 48 for instructions on when it's safe to unplug the projector or the cabinet.

Installing SMART Board Software

The 4000i comes with a SMART Board software CD-ROM, so you can install SMART Board software on any computer.




During this installation process, you should select the option to start the SMART Board tools automatically when you start your computer, so the interactive whiteboard is fully functional whenever you start your computer.

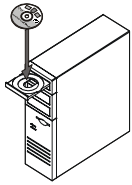
The SMART Board tools are open if you can see the SMART Board icon in the system tray (Windows computers) or in the Dock (Macintosh computers).

To install SMART Board software

1. If you haven't already done so, power on the computer and the projector. To power on the projector, press the **Projector Standby** button on the control panel.

NOTE: If the projector is off, you must press the projector's **Power** button.

	<p>IMPORTANT If you're using a USB adapter and your computer can't find the appropriate driver for it, unplug the USB adapter from your computer, install SMART Board software and then reconnect your USB adapter.</p> <p>If the <i>Found New Hardware</i> wizard appears, point the wizard to the SMART Board software CD-ROM for it to locate the correct driver.</p>
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2. Close all open applications on the computer.
3. Insert the **SMART Board software** CD-ROM into your CD-ROM drive.

The CD-ROM starts automatically. Follow the on-screen instructions.

If the CD-ROM doesn't start automatically, for Windows computers, select **Start > Run** and enter **x:\autorun.exe** (where x: is your CD-ROM drive). For Macintosh computers, click the **SMART Installer** icon to open your CD-ROM drive and double-click the Software application file.

Configuring the Interactive Whiteboard

If you install SMART Board software, but you don't have touch control of the interactive screen, you must manually configure the computer port that's connected to the 4000i. This involves specifying which serial or USB port on the internal computer is connected to the interactive whiteboard. This port configuration usually occurs automatically, but you may need to manually configure the COM port if:

- the Windows operating system you're running does not perform plug and play (e.g., Windows NT 4.0 or ME operating system)
- the Windows operating system fails to announce that it has *Found New Hardware*

To select a COM port for the interactive whiteboard

1. Press the **SMART Board** icon in the system tray (Windows computers) or the Dock (Mac computers).
2. Select **Control Panel** (Windows computers) or **Open Control Panel** (Mac computers).

The *SMART Board Control Panel* appears.

3. On the **Boards** tab, click the **Connect** button.

The *Select COM Port* dialog box appears.

4. If you know the COM port to which the SMART Board interactive whiteboard is connected, type it or select it from the COM port list. Then click the **Select** button.

OR

If you're unsure of the correct COM port, click the **Detect SMART Hardware** button to initiate hardware detection. SMART Board software searches the COM ports for the presence of an attached interactive whiteboard.

Orienting the Interactive Whiteboard

To accurately respond to a finger or pen tray tool touch, the computer needs to know the exact location of the projected image on the screen. You give the computer this information when you orient the interactive whiteboard. Orienting is a very simple process of precisely touching a grid of red crosses. With the correct orientation, the cursor appears directly beneath your finger when you touch the interactive whiteboard.

You can redo a particular orientation point by pressing the **Right-Click** button or the **LEFT ARROW** key on the keyboard. You won't lose any previously established orientation points. Alternatively, you can redo the entire procedure by pressing the **ESC** key on the keyboard.

You can also increase the orientation level to attain greater touch precision.

To orient the interactive whiteboard

1. For Windows computers, click the **SMART Board** icon in the system tray and select **Orient**.

For Macintosh computers, press and hold the **SMART Board** icon in the Dock, and select **Open Orient**.

TIP



You can access the orientation screen at the interactive whiteboard by pressing both pen tray buttons at the same time.

2. Follow the on-screen instructions. Press on each cross that appears with your finger at a 90° angle to the screen.

IMPORTANT



Keep your finger straight as it approaches the screen, press it firmly on each cross, and then keep it straight as you pull it away.

For more details, see the *SMART Board Software User's Guide* for your operating system or the Help files that accompany SMART Board software.

To change the orientation precision

1. Press the **SMART Board** icon in the system tray (Windows systems) or in the Dock (Mac computers).
2. Select **Control Panel** (Windows systems) or **Open Control Panel** (Mac computers).
The *SMART Board Control Panel* dialog box appears.

3. On the **Boards** tab, click the **Advanced** button.

For Windows operating systems, you must select **Board Settings** from the drop-down menu that appears for the *Edit Advanced Board Settings* dialog box to appear.

For Mac OS X computers, the *Edit Advanced Settings* dialog box appears.

4. Press the **Pick the Orientation Precision** tab.
5. Select the **Orientation level** that you want.
6. Press the **Apply** button, and then **OK**.
7. Press the **Orient** button to orient the interactive whiteboard at this new precision level.

Matching the Computer's Resolution to the Projector's Resolution

To make the most of the 4000i's high resolution display, set the resolution setting of any computer used with the 4000i to the optimal resolution of the projector, which is 1400 x 1050 pixels. If the computer isn't using this setting, the on-screen image may not properly fill the screen. However, if your computer can't support this resolution, the projector will scale and display any resolution from 640 x 480 and higher. You should use a resolution setting as close as possible to 1400 x 1050.



TIP

If you're using a resolution other than the optimal setting of 1400 x 1050, you can adjust your computer's refresh rate setting to improve image quality. This setting should be between 60 Hz and 85 Hz. When you adjust this setting, you should also use the projector's **Auto Adjust** and **Re-size** buttons to help you get the best possible image.

Use the information here as a guideline when you adjust your computer. For precise instructions, read the documentation for your operating system. Also, if the image on the interactive whiteboard is too distorted to see, use a computer monitor to adjust this setting.



IMPORTANT

The graphics card or the video driver of any computer connected to the 4000i should support a resolution of 1400 x 1050 pixels, or it must use graphics controller software that allows the computer to support this resolution. An example of a graphics card that supports this resolution is the NVIDIA card from NVIDIA Corporation, and an example of a graphics controller program is the PowerStrip application, which is available from EnTech Taiwan.

While the projector in the 4000i supports other resolutions, if you use a lower resolution, you may not see the entire image, or the image may be too small to fill the screen, even with further adjustments.

To adjust the resolution setting for your Windows computer

1. Select **Start > Settings > Control Panel** and then double-click **Display**.
2. In the *Display Properties* dialog box, click the **Settings** tab.
3. Move the slider to a pixel setting of **1400 x 1050** and then press **OK**.

To adjust the resolution setting for your Macintosh computer (Mac OS X operating system)

1. Press the **System Preferences** icon in the Dock.
2. Press **Displays**.
3. On the **Displays** tab of the *Monitors* dialog box, select **1400 x 1050** and close the dialog box.

Using the 4000i

After you connect your peripheral devices to your *Rear Projection* SMART Board 4000i interactive whiteboard and set up your projector and computer, you're ready to use the powerful tools that make up the 4000i and SMART Board software. Read this section of the guide for details that are specific to the 4000i, and read the *SMART Board Software User's Guide* that came with your 4000i to understand the many features of SMART Board software.

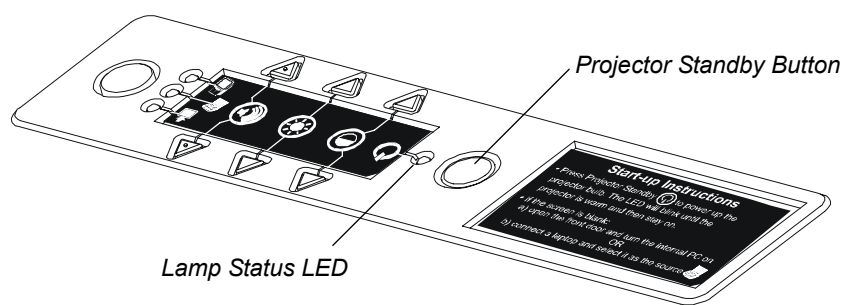
Read this section to learn how to:

- start up the 4000i (this page)
- understand the control panel LEDs (page 43)
- change the display source for the projector (page 45)
- adjust the projector settings, including volume, brightness and contrast (page 44)
- use a guest laptop (page 46)
- use the interactive whiteboard (page 47)
- shut down the 4000i (page 48)

Starting the 4000i

As long as the projector and computer in your 4000i are always on, press the **Projector Standby** button on the control panel to activate them. If these units aren't on, press the **Power** button on each.

When you activate the projector, the Lamp Status LED should blink moderately fast for approximately 90 seconds. During this time, the A/V mute image appears on the interactive screen. The LED remains steadily illuminated when the lamp is fully powered up. At this time, the computer image output displays on the interactive screen, and your 4000i is ready for use. (For information on switching input sources for the interactive screen, see page 45.)



TIP

If your 4000i is situated in a multi-user meeting room, you could find the system in any state when you enter the room. Use Table 2 on page 42 to determine what you have to do if the 4000i doesn't start when you press the **Projector Standby** button.

If you don't see your computer's video output on the screen, check that the computer is turned on. Depending on your operating system and your network setup, you might have to log in. You can use the wireless keyboard to do this. For projector problems, use Table 2.

What You See	System/Projector State	What You Should Do
A blank screen and the Lamp Status LED blinking very slowly	The projector is in standby mode, with the lamp off.	Press the Projector Standby button on the control panel. The Lamp Status LED flashes moderately fast for approximately 40 seconds and then your computer's video output appears and the LED glows steady.
The A/V mute screen, the Lamp Status LED blinking and <i>any</i> Active Display Source LED illuminated NOTE: See page 35 for details on setting the A/V mute screen.	The projector lamp is powering up. The computer's video output appears after approximately 40 seconds.	Wait for the computer video output to appear.
A blank screen and the Lamp Status LED blinking slowly. However, when you press the Projector Standby button, no image appears.	The projector lamp is not properly warming up and the projector may be experiencing problems that interfere with normal operations.	Examine the Projector Status LED on the projector. You can see this LED when you open the front doors of the 4000i. Read the <i>Epson PowerLite 9300i Multimedia Projector User's Manual</i> for assistance.
The A/V mute screen, the Lamp Status LED blinking very fast and <i>no</i> Display Source LED illuminated	The projector lamp is in reversible standby mode.	Press any button on the control panel to instantly restore the image. If you allow this state to continue for five minutes, the LED indicator will begin to blink slowly, and then move to standby mode after an additional 50 seconds.
The computer image	The projector lamp is on and functioning normally.	Log on as usual using the wireless keyboard or press the Keyboard button on the pen tray to use the SMART Keyboard.
The A/V mute screen and the Lamp Status LED illuminated steadily	The projector lamp is powered up, but the computer is either off or in standby mode.	Check that the computer is on, and if it's not, turn it on. If the computer is on, press a key on the wireless keyboard to wake it up.
The A/V mute screen, and the Lamp Status LED blinking very slowly	The projector lamp is in standby mode.	Touch the interactive screen or press the Display Source button to reactivate the projector lamp.
All the LED indicators on the control panel blinking	The system isn't currently detecting a projector.	Check that the projector is connected as described on page 18. Read the <i>Epson PowerLite 9300i Multimedia Projector User's Manual</i> for assistance.

Table 2: Startup Scenarios

Understanding the Control Panel LEDs

The control panel contains four LEDs:

- one set of three LEDs that indicate the active display source for the 4000i
- the Lamp Status LED, which indicates the status of the projector lamp

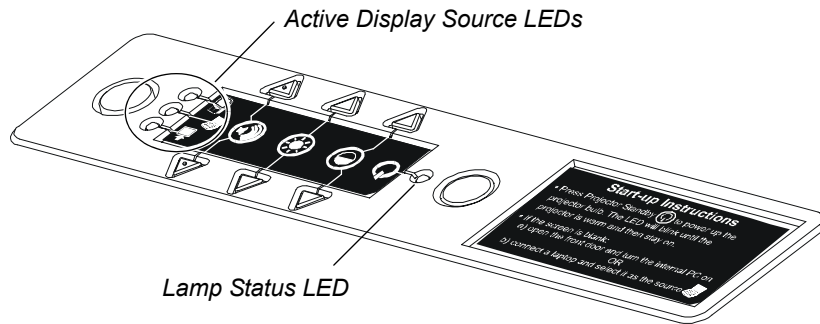


Figure 20: The LEDs on the Control Panel

The glowing Active Display Source LED indicates the current input source. This source provides the audio, video and data signals to the 4000i. When you press the **Display Source** button, that LED flashes briefly as the projector synchronizes with the new source, and then the LED beside the icon for the new source glows steadily.

The Lamp Status LED indicates the current state of the projector lamp, as well as the 4000i. To correlate the behavior of this LED with the status of the projector lamp, see Table 4 on page 58.

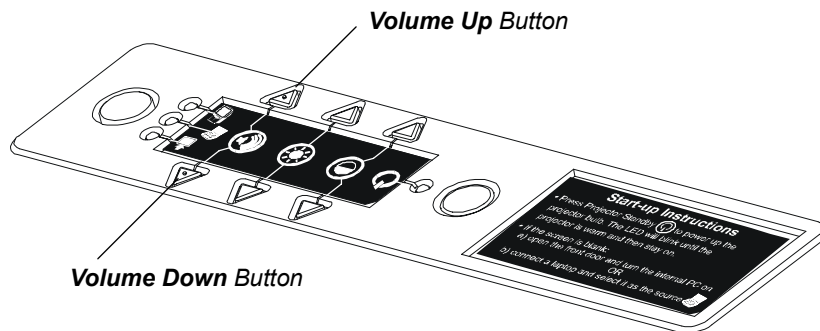
Adjusting the Volume

You can adjust the volume for the active display source independently of all other sources. So you can configure the volume level for one source, change the display source, and configure a different level for the new source. The 4000i retains the levels that you set for each of the three input sources.



To adjust the volume, press either the **Increase Volume** button or the **Decrease Volume** button on the control panel.

The default volume level is a low to medium level of sound. You can restore this default by pressing both **Volume** buttons simultaneously.



Adjusting the Projector Settings

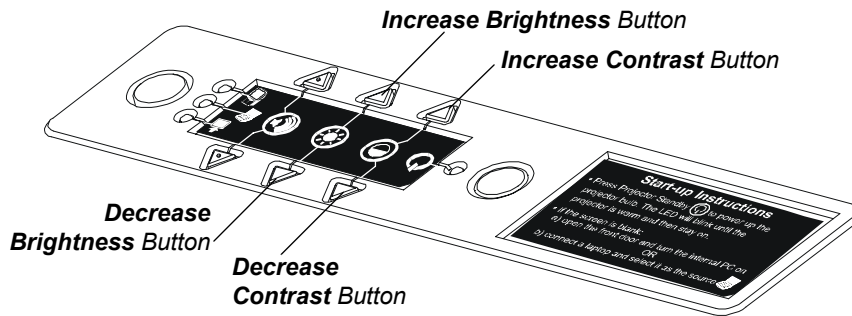
You can adjust the brightness and contrast levels for each source independently of all other sources. The 4000i then saves your settings. For example, if you increase the brightness of the display from the VCR, the brightness for the computer's display is unaffected.



To adjust the image brightness, press either the **Increase Brightness** button or the **Decrease Brightness** button on the control panel.



To adjust the image contrast, press either the **Increase Contrast** button or the **Decrease Contrast** button on the control panel.



The default levels of brightness and contrast are set to the midpoint. You can restore either default by pressing both brightness buttons or both contrast buttons simultaneously.

TIP



You can hold down a **Brightness** or **Contrast** button to make continuous adjustments.

To fine-tune the projected image

When you initially connect the projector, you may need to fine-tune the projected image. The lens in the projector isn't motorized, so you can't use the buttons on the remote control to focus the image. Instead, you must manually rotate the projector lens.

TIP



Make sure you turn on the remote control before you try to use it.

To move the image up or down on the screen, use the **Lens Shift** button on the projector or its remote control. To eliminate vertical banding of the image, press the **Tracking** button on the projector.

After you've adjusted the image, you can optimize it by pressing the **Auto** button on the projector or on the remote control.

Changing the Display Source

The **Display Source** button lets you switch between three input devices for video and audio input, and control over the interactive whiteboard. You'll know which is the current source from the Active Display Source LED.

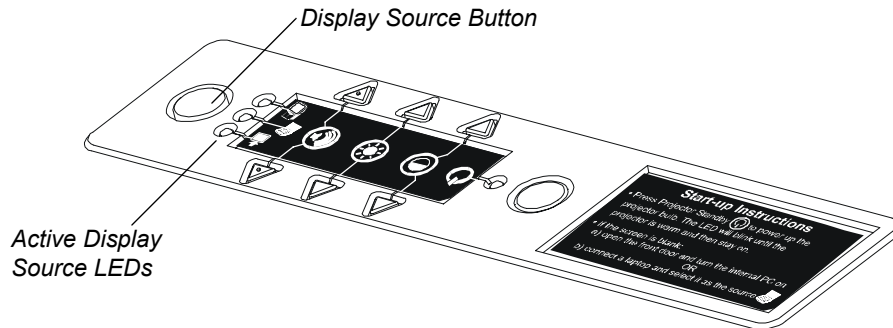


Figure 21: Changing the Display Source

Refer to Table 3 for details on using the **Display Source** button. This table assumes that you've connected the internal computer and the laptop to the provided cable bundles, and the S-video source to the connection panel.

NOTE: Don't press the Display Source button too quickly. Instead, wait until the source displays before pressing the button again.

To go from this source...	...to this source...	... press the Display Source button
Internal computer (Source 1)	Laptop (Source 2)	Once
Laptop computer (Source 2) NOTE: In this case, your laptop has been the input source for more than one minute.	Internal computer	Once
Internal computer	Other S-video source (DVD player or document camera)	Twice
Laptop computer (Source 2) NOTE: In this case, your laptop has been the input source for more than one minute.	Other S-video source (DVD player or document camera)	Three times
Other S-video source (DVD player or document camera)	Internal computer	Once
Other S-video source (DVD player or document camera)	Laptop computer	Twice

Table 3: Switching Sources with the 4000i

If your Computer 1 source is connected with BNC connectors (not supplied), you can change Source 1 to the BNC setting by holding all three Down buttons for three seconds. To change Source 1 back to the 15-pin connector, hold the three Up buttons for three seconds.

Changing Video Display Sources



To see the video output from the DVD player (or the device connected using the S-video port on the connection panel), press the **Display Source** button until the Video IN LED illuminates.



To see the video output from a composite video source (such as a VCR), press the **Display Source** button until the Video IN LED illuminates and then press the **Video Source** button on the projector's remote control. (Make sure you turn on the remote control.)



To see the video output from a DVI video source, press the **Display Source** button until the Video IN LED illuminates and then press the **DVI Source** button on the remote control.

If you press the **Display Source** button, you reset the 4000i. It no longer sees the composite or DVI video image. To return to these video sources, you must repeat the process, including the remote control button press.

Using the Guest Laptop

When you connect the guest laptop's cables (see page 23) and press the **Display Source** button, the 4000i immediately switches to the guest laptop for video, data and audio input. You'll see the laptop's video output on the interactive screen, you'll hear the laptop's audio through the 4000i's speakers, and, as long as you have SMART Board software open on your laptop, you can control the interactive whiteboard. (For details on installing SMART Board software, see page 37.)

If you switch away from the guest laptop source, you can return to it by pressing the **Display Source** button. The Active Display Source LED beside the guest laptop icon blinks slowly as the projector synchronizes the video image. When the laptop is ready for use, this LED remains illuminated.

If the cursor doesn't accurately track your finger contact on the screen, orient the interactive whiteboard for the laptop (page 39). Also, if you can't see an image, make sure the laptop's external video port is active. Some laptop computers can't send a video signal to both the attached screen and the external video port or an external monitor at the same time. You may need to deactivate the internal video port on your laptop or put the internal and external video ports into simultaneous display mode, so that the laptop displays on both the laptop monitor and the interactive whiteboard.

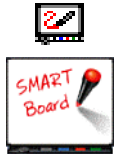
With newer Windows laptops, you can synchronize the internal and external video ports at the software level, as follows:

1. From the **Start** menu, select **Settings > Control Panel > Display**.
2. Click the **Refresh** (or **Monitor Refresh**) tab.
3. Click the **CRT/Panel** option to activate the monitor and external video port display.

This may not be possible with older laptop models, so you may need to switch back and forth between the internal and external video port. If you aren't sure which commands or keyboard combinations are required to do this, check the owner's manual for your laptop.

If the image on the screen is too large or too small, check that the resolution setting for your laptop. The projector in the 4000i scales all resolutions from 640 x 480 pixels and up. However, not all resolutions are useable and the image quality suffers if you don't use the optimal resolution of 1400 x 1050 pixels (see page 40). If your laptop can't support this optimal resolution, set it to the resolution closest to 1400 x 1050 pixels. Alternatively, you can use a graphics controller program (see page 7).

Using the SMART Board Interactive Whiteboard



**SMART
Board
Icons**

Touch control is enabled when you've connected your computer to the 4000i and installed SMART Board software. However, to get the most from your 4000i, open the SMART Board tools. You'll know that the tools are active if you can see the SMART Board icon in the system tray (Windows computers) or the Dock (Macintosh computers).

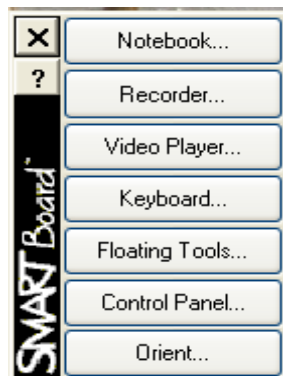
This section of the guide gives you an overview of the SMART Board tools. However, to gain a greater understanding of the software, read the *SMART Board Software User's Guide* that came with the 4000i or the SMART Board software Help files.

With SMART Board software, you can customize the pen tray tools, including the eraser size, and the color and transparency of the pen tools. To do this, read the applicable Help topic, which you can access in the *SMART Board Control Panel* by pressing the **Help** button.

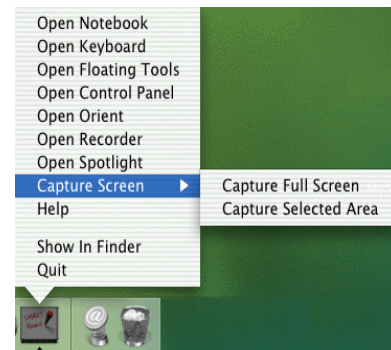
SMART Board Tools

The SMART Board tools provide all the functionality beyond basic touch control and pen tray button use. Specifically, they provide you with annotation and tool-configuration capabilities. It's important to note that if you want to use any stylus or the eraser, you must have the SMART Board tools running.

To see the tools, press the **SMART Board** icon in the system tray or the Dock. Then press a button or a menu item to access that tool.



Windows Operating System



Mac OS X Operating System

Figure 22: The SMART Board Tools

To summarize, the SMART Board tools include:

- Notebook software, an application for organizing and sharing your annotations
- Recorder, an application for recording a video file of everything you do on a computer
- Video Player, a Windows-only application for annotating over video and graphics

- Keyboard, a virtual keyboard for entering text in an application
- the Floating Tools, a virtual palette of annotation tools
- the SMART Board Control Panel, a utility that lets you configure the interactive whiteboard, including the pen tray tools

SMART Notebook Software

You can use Notebook software to create and save annotations. With this tool, you can:

- collaborate on electronic documents in front of a group
- capture an image of an annotation that you created over any application
- create and edit a wide variety of annotation objects with either the pen tray styluses or Notebook software commands
- convert handwriting into typed text with an easy-to-use handwriting recognition feature
- import graphics, text and entire files from other applications onto Notebook pages
- save, print or e-mail a file of everything you write, draw or type in Notebook software

Shutting Down the 4000i

If you leave your computer and projector on, you can follow the steps below to shut down your system. If you prefer, you can also shut down the computer. However, we recommend logging off rather than shutting down the computer, because it makes it easier to turn the 4000i back on. (You just press the **Projector Standby** button.)

For more details on the states of the projector, see page 7. To fully understand the LEDs on the control panel, see page 43.

CAUTION



When you put the projector in standby mode or shut it down, its fan continues to run to cool the lamp. If you must unplug the projector, you should let the projector lamp cool for at least three minutes before you unplug the 4000i.

To shut down the 4000i using the Projector Standby button

1. Log off the computer. Doing this enhances system security and provides subsequent users with a consistent initial interface – the system logon screen – after they've powered up the projector lamp.
2. Press the **Projector Standby** button once to put the projector into *reversible* standby mode. The projector displays the A/V mute image for five minutes, but the lamp remains on. If necessary, you can immediately restore the image by pressing any button on the control panel. You'll know the projector is in this state if the Lamp Status LED blinks rapidly and no Active Display Source LED glows. After five minutes, the lamp begins to power down (the LED flashes slowly) and then becomes idle. This process takes approximately 40 seconds.

OR

Skip the five-minute reversible period: Press and hold the **Projector Standby** button for a few seconds. Release the button and the lamp starts powering down, which takes approximately 40 seconds, and then it moves into the **Standby** state. In this state, the Lamp Status LED blinks very slowly and the fan may continue to run.

Maintaining and Troubleshooting the 4000i

Your *Rear Projection* SMART Board 4000i interactive whiteboard should provide years of trouble-free service. However, you should periodically clean its components so it can display the best possible image. The only other maintenance you might have to perform is to replace the projector lamp or adjust the cabinet doors. For more information on maintaining the projector, read the *Epson PowerLite 9300i Multimedia Projector User's Guide* that comes with the 4000i.

This section of the guide tells you how to:

- clean the cabinet, the mirror and the interactive whiteboard (this page)
- clean the projector (page 50)
- replace the projector lamp and the filter (page 53)
- connect the laptop umbilical cables to the connection panel (page 53)
- adjust the projector's settings (page 55)
- adjust the front doors (page 56)
- troubleshoot the 4000i (page 57)

Cleaning the Cabinet, the Mirror and the Interactive Whiteboard

Periodically dust the mirror and outside of the cabinet using a soft cloth. To clean the mirror, remove the 4000i's side panel (see page 64), and then use a standard, alcohol-free glass cleaner.

If your eraser gets dirty, order a package of five replacement pads from your dealer (order number ERA-PAD-5).

Before you clean the front of the interactive screen, log off the computer. If you touch the screen when the computer is in any other state (e.g., with a program open or at the desktop), you may activate program components or scramble desktop icons. After you log off, put the projector into standby mode so you can easily see dirt and streaks.

Do not spray the glass cleaner directly onto the screen's surface. Instead, spray a light amount of cleaner on a cloth and then gently wipe the screen. Don't allow excess glass cleaner to flow into the crack between the frame and the writing surface, because the fluid could damage the cameras that are located inside the frame.

Remove marks made with a permanent marker by completely covering them with the ink from a dry-erase marker (*not* a low-odor marker) and then wiping them with a soft cloth. Dry-erase ink contains solvents that work to remove permanent ink. If any trace of the original permanent ink remains, clean the area with standard glass cleaner.

After writing on the screen surface, you may notice marks that appear to be scratches in the screen material. These marks are caused by plastic from the stylus that's deposited on the surface when the stylus is pressed very hard. To remove these marks, apply gentle pressure with your thumbnail back and forth across the mark, and then clean the area with glass cleaner.

The back of the interactive screen is well protected by the cabinet. However, if it must be dusted, or if a mark has been made on its surface, dab it gently with a soft cloth that's sprayed with standard, alcohol-free glass cleaner. Do not apply the cleaner directly to the surface.

CAUTION



Do not, under any circumstances, apply *isopropyl alcohol*, *water* or *acetone* to the rear surface of the interactive screen. Any of these fluids could damage the diffusion coating, resulting in a permanent deterioration in display quality.

Cleaning the Projector

Before you clean the projector, make sure it's powered down (page 48) and that the Lamp Status LED isn't flashing quickly. Then unplug either the projector or the cabinet. If you have to remove the projector, follow the instructions entitled *To remove the projector from the cabinet* on page 51.

CAUTION



You should let the projector lamp cool for at least three minutes before you unplug the 4000i.

Clean the projector casing with a soft, dry cloth. If it is heavily soiled, you can use a damp cloth and a mild detergent, but don't use strong detergent, wax or a chemical solvent, such as alcohol, benzene or paint thinner. For additional cleaning information, read the *Epson PowerLite 9300i Multimedia Projector User's Guide*.

Because the projector lens sits in a horizontal position where dust will accumulate, you should clean it often. To clean the lens, you must remove the cabinet's side panel (see page 64). Then use a blower or a canister of compressed air, being careful that you don't scratch or mar the lens. To remove dirt or smears on the lens, use lens paper. If this doesn't remove the marks, moisten a soft cloth with lens cleaner and gently wipe the lens surface.

CAUTION



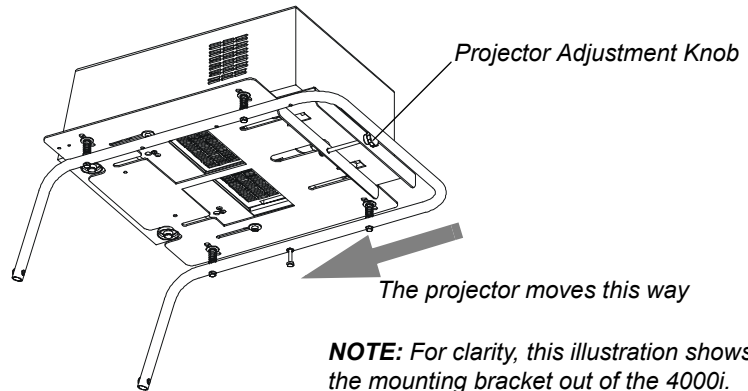
Don't use glass cleaner on the projector's lens. Also, avoid touching the lamp glass because oils from your fingers may transfer to the lamp and cause it to overheat.

The projector has air filters on the bottom. If dust builds up on these filters, it can hamper ventilation, which may cause the projector to overheat. In this case, the projector won't turn on. To avoid this, clean these filters every three months (more often in dusty conditions) or after every 100 hours of lamp use by vacuuming them as described in the *Epson PowerLite 9300i Multimedia Projector User's Manual*.

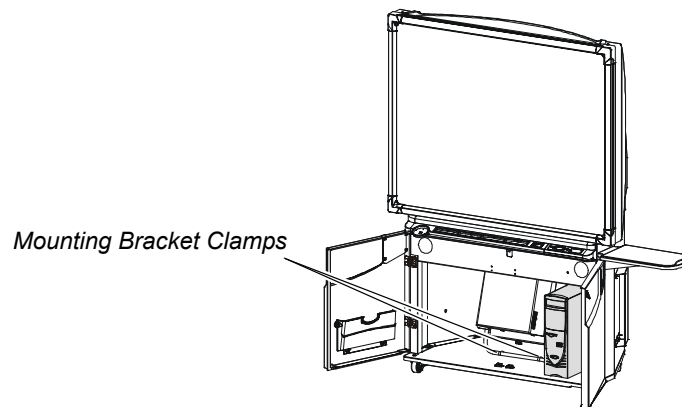
When you replace the projector lamp, you should also replace the air filters. To do this, you must remove the projector.

To remove the projector from the cabinet

1. Shut down the projector (see page 48) and unplug it when the lamp has cooled down.
2. Open the front doors of the 4000i and disconnect all cables that are connected to the projector, including the power cable.
3. Turn the projector adjustment knob until the projector is as low as you can get it.

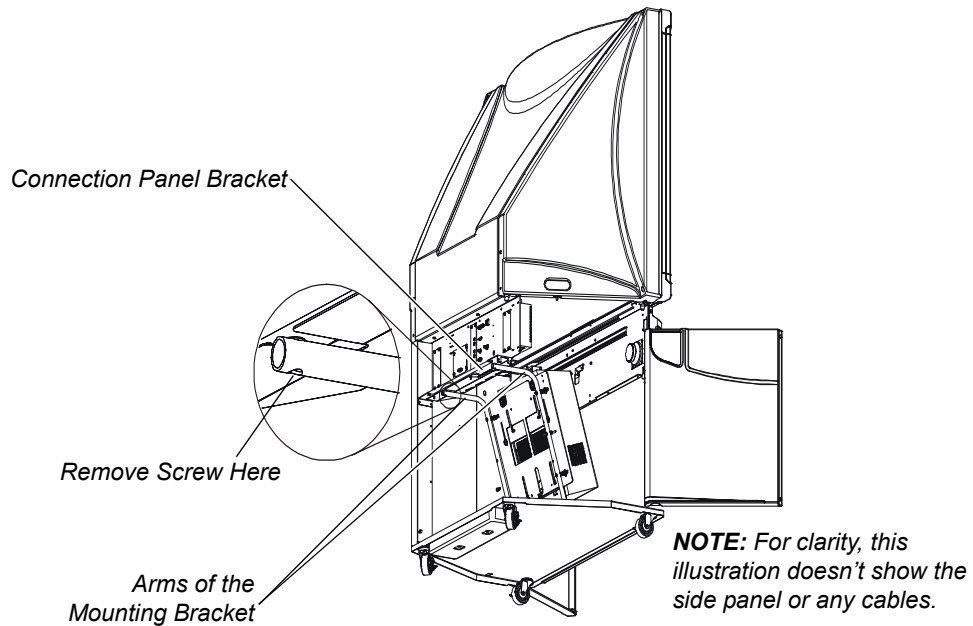


4. Loosen the screws that hold the mounting bracket clamps to the inside of the 4000i. To do this, use the 3/16" hex key from the accessory kit.



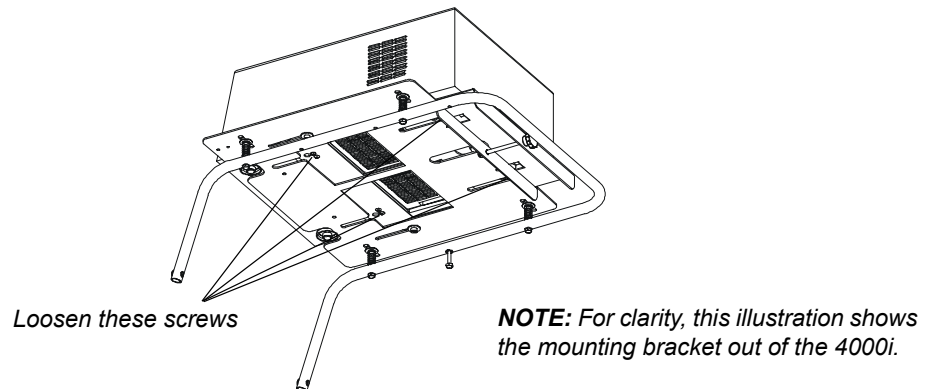
5. Remove the rear access panel (see page 14).

6. As you hold the mounting bracket, remove the screws that hold the arms of the mounting bracket to the connection panel bracket. To do this, use the 3/16" hex key.



7. Gently tilt the mounting bracket until the arms are resting on the floor behind the cabinet.
8. Use the M4 hex key to loosen the four screws that hold the projector to the mounting bracket.

NOTE: Do not remove these screws.



9. Lift the projector forward to free the screws from the keyholes, and then lift the projector clear of the mounting bracket.
10. Set the projector on a flat surface.

TIP



To return the projector to the cabinet of the 4000i, follow the procedure on page 15.

Replacing the Projector Lamp and Air Filter

In general, you should replace your projector lamp after 7,000 hours of use. At the same time, you should replace the air filter with the one that you'll receive with the replacement lamp. Only use the Epson replacement lamp with the SMART part number 01-00159 (Epson part number V13H010L26). To obtain this replacement, call your dealer or SMART Technical Support at the numbers listed on page 79.

You should also replace the projector lamp if:

- the image on the screen deteriorates
- the image on the screen appears darker than expected
- you see the **Lamp Replace** message on the screen
- you see the lamp warning light on the projector flashing orange

NOTE: If the lamp warning light flashes red, the lamp is burned out and you *must* replace it.

To replace the lamp and filters, remove the projector from the cabinet by following the instructions on page 51. Read the *Epson PowerLite 9300i Multimedia Projector User's Manual* for instructions and illustrations on replacing these items. When you finish, you should reset the lamp timer.

Connecting the Laptop Umbilical Cables to the Connection Panel

When you receive the 4000i, the laptop umbilical cables are already connected to the connection panel. However, should these cables become detached and require reattachment, use these instructions and the following two illustrations.

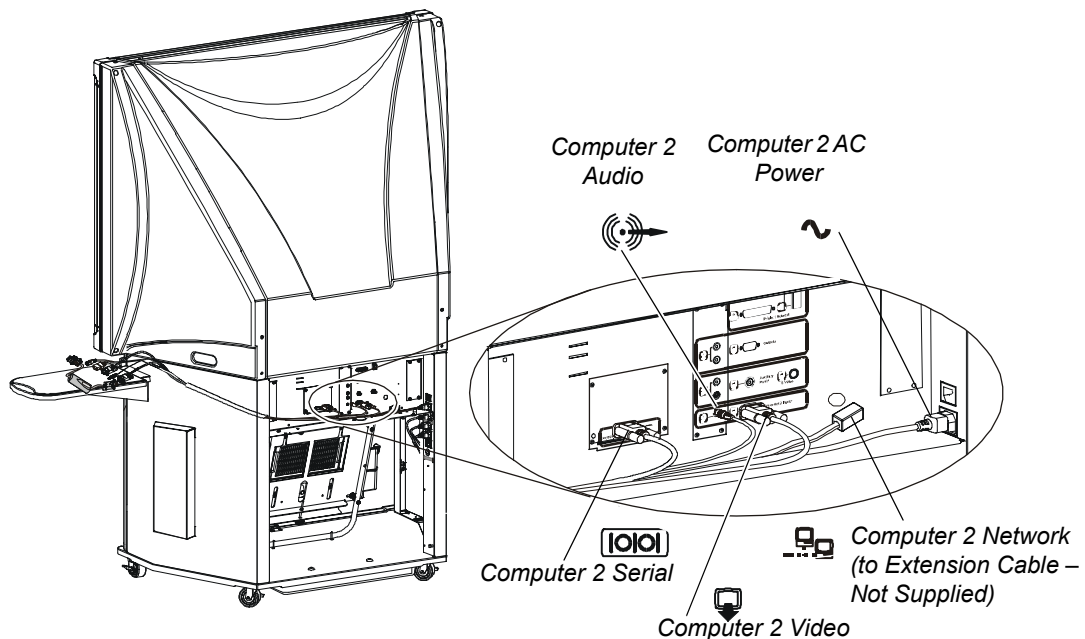


Figure 23: The Laptop Connections on the Connection Panel

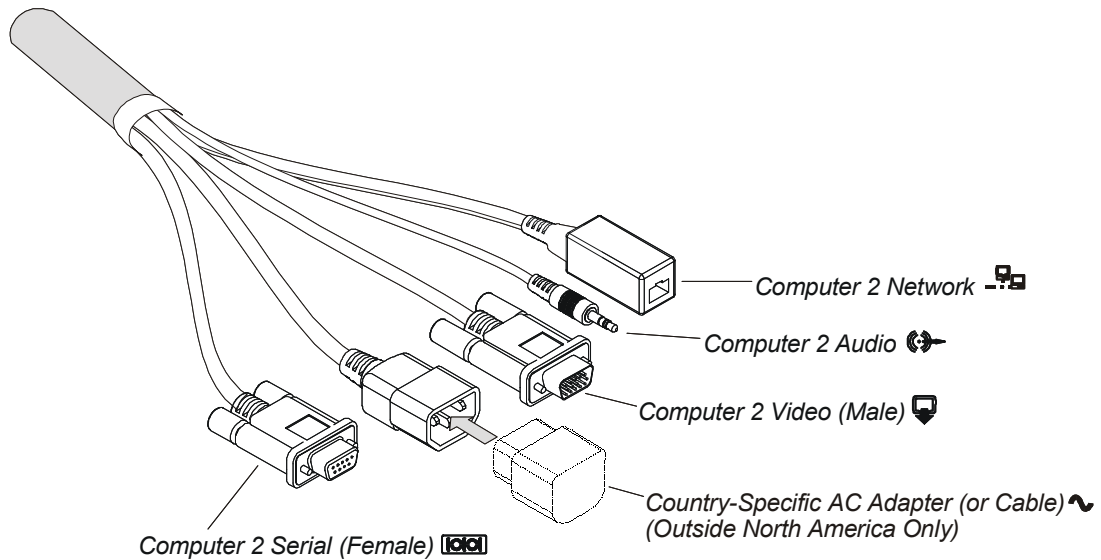
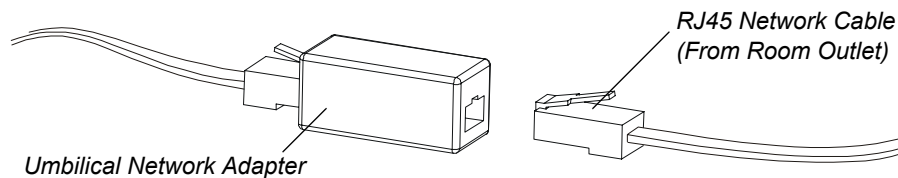


Figure 24: The Laptop Umbilical Cables (Connection Panel End)

To connect the laptop umbilical cables to the cabinet

1. Connect the **Computer 2 Video** cable to the video (female) port (see Figure 23 on page 53).
2. Connect the **Computer 2 Serial** cable to the **Laptop Serial IN** (male) port.
3. Connect the **Computer 2 Audio** cable to the audio jack (see Figure 23 on page 53).
4. Connect the **Computer 2 Network** adapter in the laptop umbilical to a network extension cable that's connected to a room outlet.



5. Connect the country-specific adapter to the **AC Power** cable, and then connect that cable to the **Laptop Power OUT** outlet, located to the right of the connection panel.

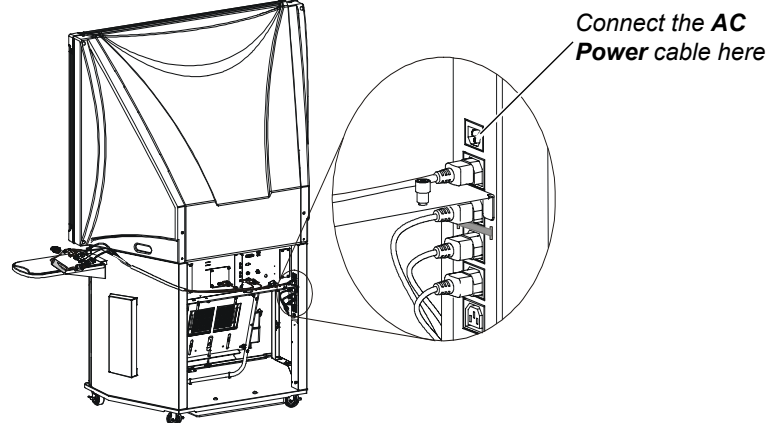


Figure 25: Connecting the AC Power Cable from the Laptop Umbilical

Adjusting the Projector Settings

The projector is configured for optimal performance within the 4000i. However, if these settings are altered, you can easily restore them.

IMPORTANT Do not modify the following settings:



- **Standby Mode**, which must be set to **Network ON**
- **Contrast**, which must be set to **Manual**

By setting the standby mode to **Network On**, you allow the projector to go into standby mode instead of full sleep mode.

The numeric default value for the Contrast and Brightness settings is zero. Read the *Epson PowerLite 9300i Multimedia Projector User's Guide* for more information on the projector's settings. Also, to use the remote control, first press its Power button.

To set or restore the projector settings

1. Press the **Menu** button on either the projector remote control or on top of the projector.
2. To reset the options on a particular menu, select that menu from the **Menu List** and then select the **Reset** option.

To reset all options, select the **Reset All** option on the **Menu List**.

NOTE: When you reset all options, the **Input Signal**, **User's Logo**, **Language**, **Projector ID**, **Network** and **Lamp** settings remain the same.

3. Press the **ESC** button.

To adjust the Contrast setting

1. Press the **Menu** button.
2. Select **Video** from the **Menu List**.
3. Select **Auto** beside the **Contrast** option and press **Enter**.
OR
Select **Manual** beside the **Contrast** option and press **Enter**.
4. If you've selected **Manual**, enter your contrast settings, as needed. Refer to the *Epson PowerLite 9300i Multimedia Projector User's Guide* for more details.
5. Press **Adjustment**.
6. Press the **ESC** button.

To adjust the Network setting

1. Select the **Menu** button.
2. Select **Advanced1** from the **Menu List**.
3. In the **Standby Mode** area, select **Network On**.
4. Press **Enter**.
5. Press the **ESC** button.

Adjusting the Front Doors

If the bottom of a door scrapes the base of the cabinet or if the gap between the doors is slightly wider toward the base of the cabinet, you can adjust the doors by adjusting the hinges.

To adjust a door

1. Open the door wide to expose the hinges.
2. On the door side of the two hinges, loosen the top and bottom screws (four screws in total) using the Phillips® No. 2 screwdriver from the accessory kit.

CAUTION



Do not loosen the screws on the cabinet side of the hinge.

3. Lift the door from the bottom as far as the hinges allow. Holding the door up with one hand, tighten the screws you just loosened. Swing the door shut to determine if this alleviated the problem.
4. If the door continues to scrape against the cabinet, adjust the hinge knuckle on the *top door hinge only*. To do this, support the door with one hand as you loosen the knuckle screw on the top hinge. Push the door toward the cabinet, letting the inner portion of the knuckle slide along the saw-tooth-edged channel. We recommend that you push the knuckle in approximately 1/8" (3 mm) or about 3 to 4 teeth. While you continue to hold the door in place with one hand, tighten the knuckle screw.
5. Swing the door shut.

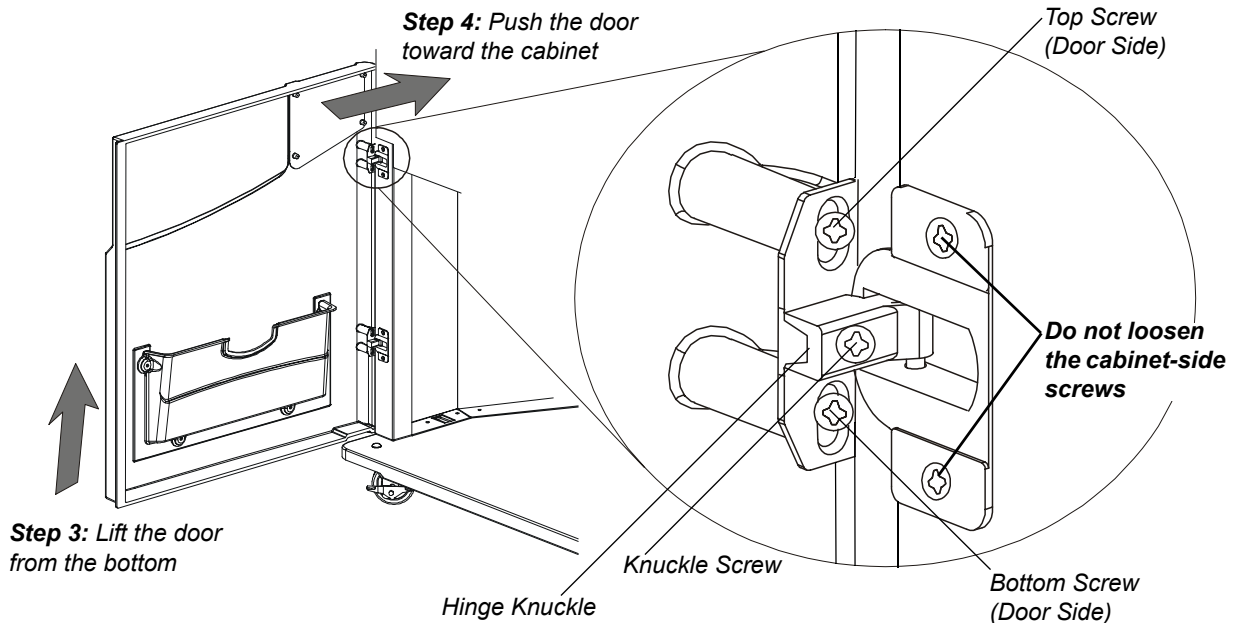


Figure 26: Adjusting a Door Hinge

Troubleshooting

If you discover a problem with your 4000i, read the hints and tips in this section to isolate and resolve the problem.

Most problems result from incorrect cabling, an incorrect computer setting or improperly installed or configured software, including the video card settings. Of course, for the 4000i to be working properly, its major components must be functioning correctly. These components include the computer, projector and the interactive screen. To determine if they're functioning properly, use the LEDs on the 4000i (see Table 4 on page 58). Also use the tables in this section to understand which component may be causing the problem and what steps you can take to correct it. If you need more information on the states of the projector, see Table 1 on page 7.

As you begin your troubleshooting, record the problems that you observe and what you did to resolve them. These notes will help if you need to contact SMART Technical Support (see page 79). Also try these general tips:

- Substitute hardware that you know is functioning with any hardware that you suspect may be malfunctioning. For example, substitute your computer with another that you know is working properly.
- Check all cable connections and system settings. Check the LEDs for the presence of power or for the indication of a display problem.
- Completely shut down the system and then restart it. To do the shut down, shut down the computer's operating system. Then press the Projector Standby button on the control panel to turn the projector off. Allow it to cool for three minutes and then disconnect the main AC power cable from the room outlet. To power up the 4000i, wait another 15 seconds and then plug the AC power back in. Power on the computer and projector.
- Read the cable schematics (page 75) to understand the major components and the cabling routes. With this information, you can bypass some components or reduce the problem to a small subassembly.

The LEDs indicate the state of the interactive whiteboard and the projector. The Active Display Source LED indicates which input source is active (the internal computer, the guest laptop or the external video source), while the Lamp Status LED indicates the state of the projector (see Table 4 – next page). If the Active Display Source LEDs are blinking constantly, the projector isn't properly attached and you should check the cables and connections.

Lamp Status LED	Projector and Lamp Status	Comments
Blinking	Lamp is powering up. This takes about a minute.	The Projector Standby button was pressed, putting the projector in its powering up state. Wait for the lamp to come on.
Glowing steadily green	Lamp is on	This is the normal operating state of the projector.
Blinking very quickly	Projector is in reversible standby mode, with the lamp on and the A/V mute image displaying. This state lasts five minutes.	The Projector Standby button was pressed when the projector was in its normal operating state. To reactivate the projector, press a control panel button. To let the projector go on standby, simply wait out the reversible standby period.
Blinking slowly	The lamp is off and the projector is powering down	The reversible standby mode has passed. Wait for the projector to go into standby mode. The projector has gone for 5 minutes without receiving a video signal because, for example, the computer went into standby mode.
Blinking very slowly	The projector is in standby mode and the lamp is off	The 4000i is off. Press the Projector Standby button to restart it.
Blinking constantly, along with the Active Display Source LEDs	No projector is connected	The cables may be loose or not connected. The projector's power cable may not be connected.
Blinking, along with the Active Display Source LEDs, in a clockwise marquee pattern	Not active	Special state for upgrading firmware. Call SMART Technical Support at the numbers listed on page 79.

Table 4: Interpreting the Lamp Status LED

You can also use the three LEDs on the projector (Power, Lamp Status and Temperature) to interpret the status of the projector. Read the *Epson PowerLite 9300i Multimedia Projector User's Guide* for information on interpreting these LEDs.

Use tables 5 through 7 on the next few pages to troubleshoot problems, as required.

Problem	Cause	Possible Remedy
The image is too high or too low on the interactive screen	Projector misalignment	Use the Lens Shift buttons on the projector to adjust the image position. Also see page 32 for information on adjusting the projector and the mounting bracket.
There's no image on the interactive screen	Source selection problem	Check that you've selected the correct source by looking at the Active Display Source LED. If necessary, press the Display Source button to change the source.
	Cable problem	The cable connections may have come loose. Check the connections.
	Power problem	Check that the power cable is plugged in and that the projector is on.
	Projector problem	Check that the projector lamp hasn't reached the end of its life (see page 53). Check that the projector hasn't overheated. If the room is particularly warm, open the cabinet doors to allow cooler air to reach the projector. Check that the lamp cover is properly installed.
The image doesn't fill the interactive screen properly	Computer problem	The computer's resolution setting may not be set to 1400 x 1050 pixels, or the computer's video card or graphics control software doesn't support this resolution. Install the appropriate software.
There's no image from the laptop on the interactive screen	Computer problem	The laptop Video OUT port may not be activated. See page 46 for details on correcting this problem.

Table 5: Troubleshooting Image Problems

Problem	Cause	Possible Resolution
The projector's remote control doesn't work	Power problem	Check that the batteries are in the remote control. If necessary, change the batteries.
		Check that the ON/OFF button on the remote control wasn't pressed
	IR problem	Stand within 22' (6.7 m) of the projector.
The computer that's connected using the SMART USB adapter doesn't work properly	Computer problem	Make sure your operating system supports a USB Human Interface Device (HID). You may need to install HID drivers and enable USB support. You can install these drivers from the operating system CD before you connect the SMART USB adapter. However, when you connect the adapter, the Windows operating system prompts you to install the USB HID driver if it's not already on your system. For more information, read the documentation that came with your operating system.

Table 6: Troubleshooting Remote Control and the USB Cable Problems

Problem	Cause	Possible Resolution
There's no touch control on the interactive screen	Software problem	Make sure SMART Board software is running. Open the <i>SMART Board Control Panel</i> and check the status of the interactive whiteboard. You may have to reestablish communications.
Touch control isn't accurate	Orientation problem	Orient the screen (see page 39).
The pen tray tools and buttons aren't responding properly	Pen tray problem	Check that nothing is obscuring the sensors on the pen tray. Clean the sensor or remove any blockage.
There's no touch control or electronic ink	Power problem	Check that the main power cable is connected to a functioning room outlet. Call Technical Support (see page 79).
No electronic ink appears on the interactive screen	Software problem	Make sure SMART Board software is running. Make sure SMART Board software is in Projected Mode.
You see gaps in the electronic ink when you write on the screen	Connection problem	Call Technical Support (see page 79).

Table 7: Troubleshooting Touch and Control Problems

Appendix A: Disassembling and Reassembling the Cabinet

If you remove the side panel, you can access a number of important components, like the SC8 controller and the communications hub. However, you must be extremely careful not to make contact with the back of the screen, as you can damage its diffusion coating. Also, don't remove both side panels at the same time because without their support the back panel will slide off.

The removal of the side panel (the right one as you face the screen) is also a preliminary step to removing the interactive screen and the top of the cabinet. Please note that you only need to remove the top of the cabinet if you must move the cabinet through a low doorway, or if a cabinet component requires replacement or repair.

If you are transporting the 4000i, you should remove the internal components, such as the projector and the computer, and repackage them in their original boxes.

This section provides important information on the correct way to disassemble the 4000i (this page) and then to reassemble it (page 68). For information on removing the projector, see page 51.

Disassembling the Cabinet

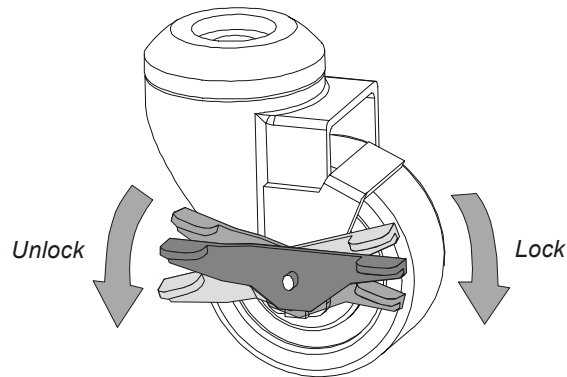
When you disassemble the cabinet, you must follow these procedures:

- Prepare the 4000i (this page)
- Remove the optional mounting arm and videoconferencing shelf (page 63)
- Remove the right side panel (page 64)
- Remove the interactive screen (page 65)
- Remove the top half of the cabinet (page 67)

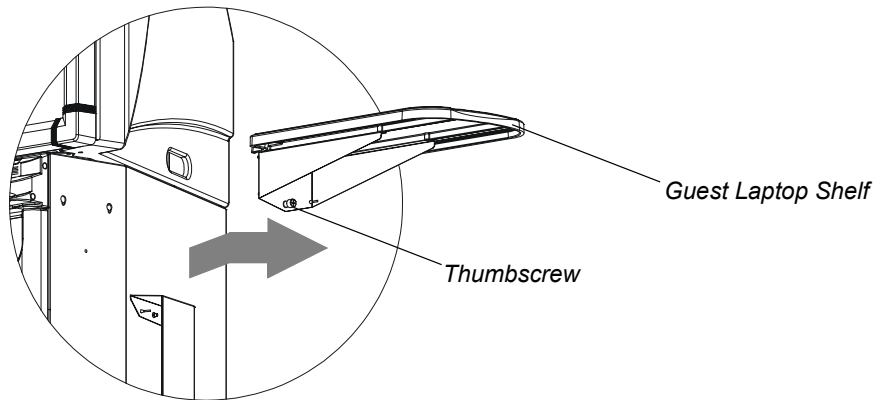
To prepare the 4000i

1. Shut down the computer and the projector. Wait three minutes and unplug the cabinet.

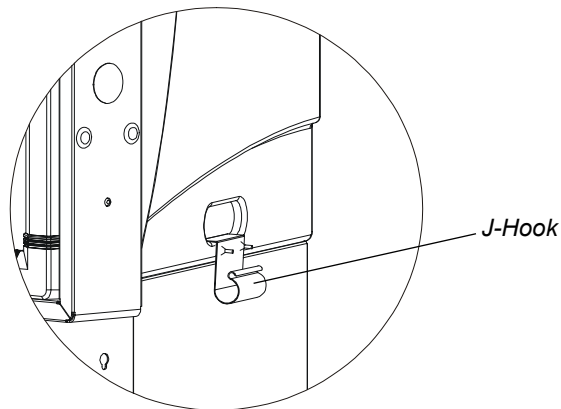
2. If you need better access to the cabinet, unlock the wheels by pressing the caster tab locks on each wheel and rolling the unit to a more convenient location. Press the caster tabs in the opposite direction to lock the wheels again.



3. Remove the guest laptop shelf by loosening the thumbscrew underneath the shelf, lifting the shelf up, and pulling it away from the cabinet.



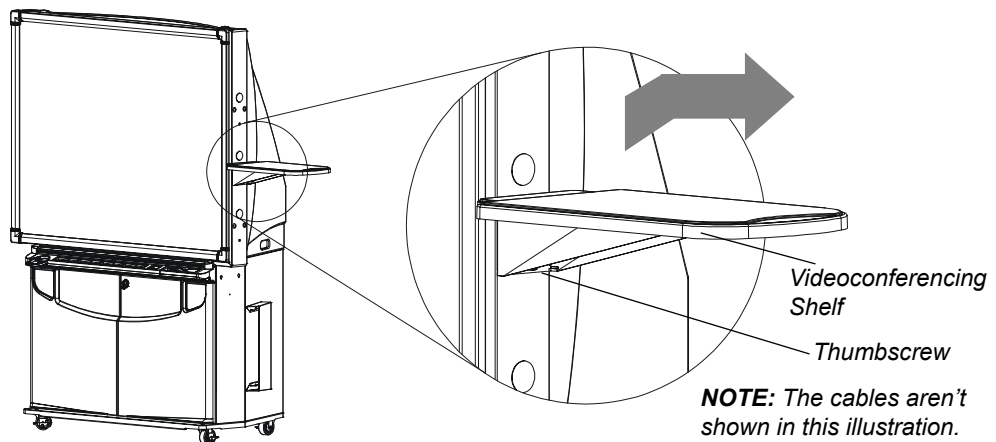
4. Remove the J-hook and the laptop umbilical cables by lifting them off and moving them to a safe location.



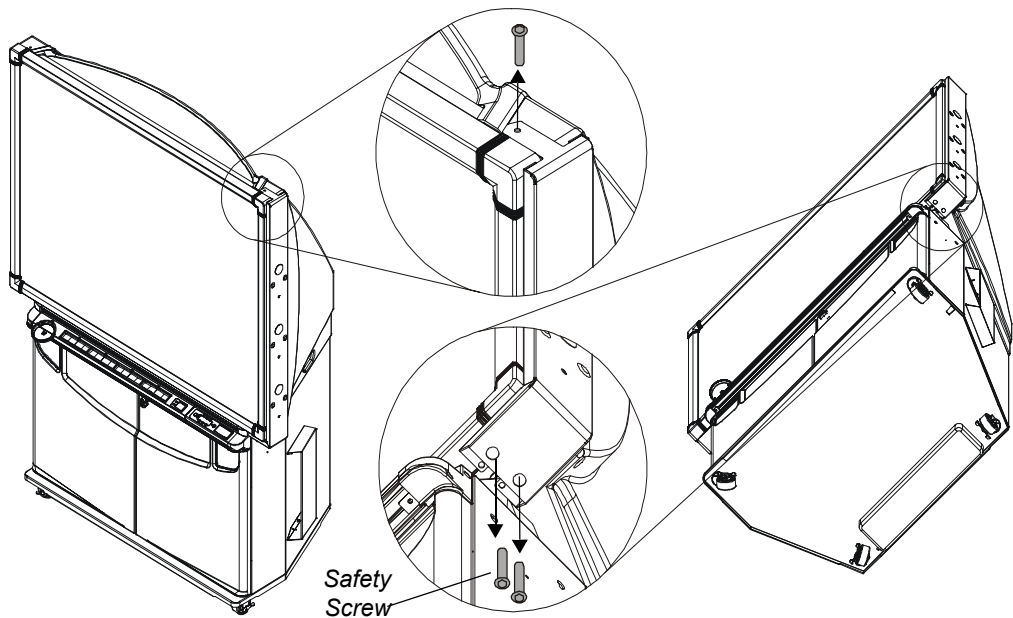
5. Detach the infrared (IR) receiver and leave it temporarily dangling.

To remove the optional mounting arm and videoconferencing shelf

1. Shut down the videoconferencing unit, disconnect it, and remove it from the videoconferencing shelf.
2. Loosen the thumbscrew under the shelf and then lift the shelf from the mounting arm.



3. Feed the cables through the large hole in the mounting arm.
4. Remove the three hex socket screws (shown below, includes one safety screw) that hold the mounting arm to the cabinet using the 5/32" hex key from the 4000i's accessory kit.



WARNING

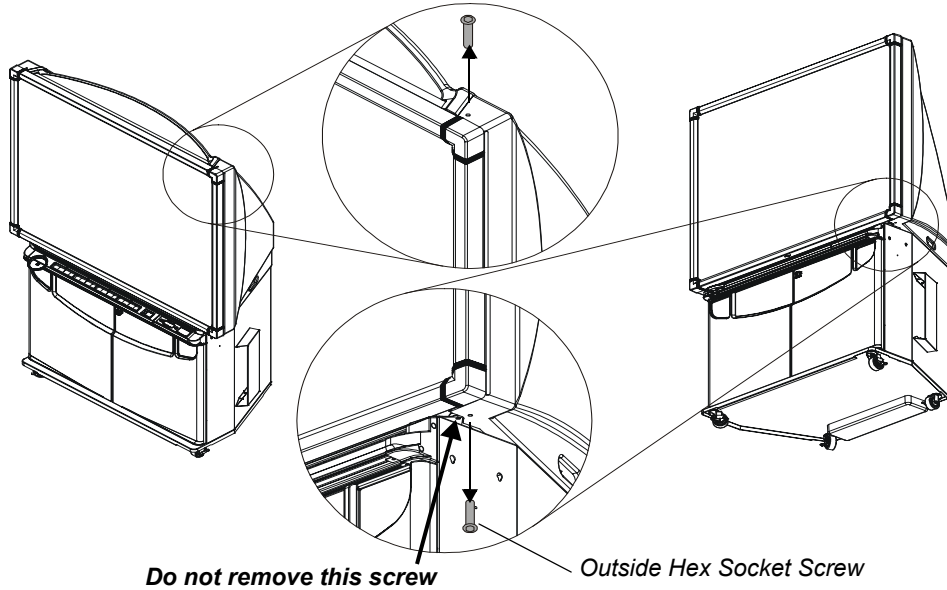


Do not lift or move the cabinet until the safety screw is replaced in a later step.

5. Remove the mounting arm from the cabinet.
6. Proceed to step 2 of *To remove the right side panel* on page 64.

To remove the right side panel

1. Remove the two hex socket screws (shown below) using the 5/32" hex key from the accessory kit.

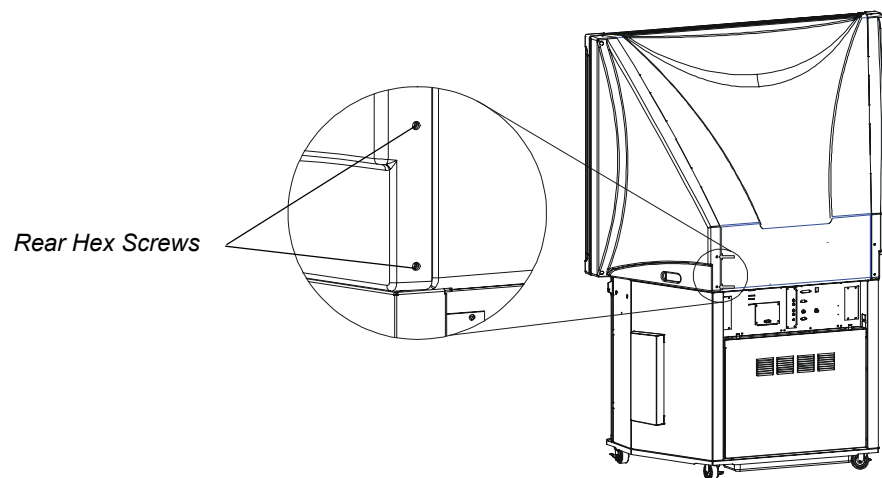


IMPORTANT

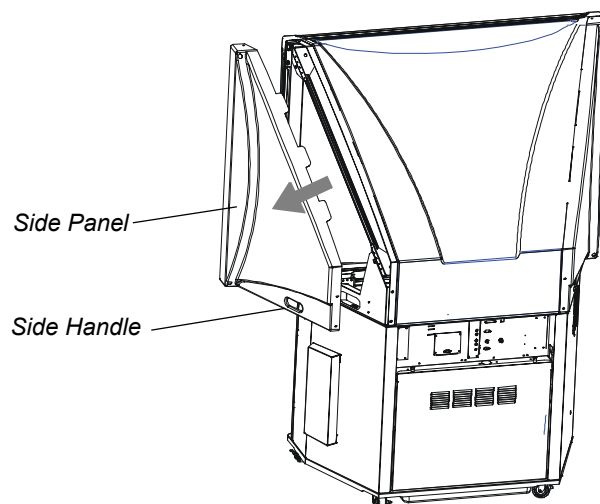


Only remove the outside hex socket screw shown above.
Do not remove the safety screw that's closer to the inside corner.

2. Remove the two hex screws on the rear of the cabinet using the 5/32" hex key from the accessory kit.



3. With one hand grasping the panel's side handle and the other hand on top, pull the side panel off the cabinet.



To remove the interactive screen

NOTE: This procedure requires two people.

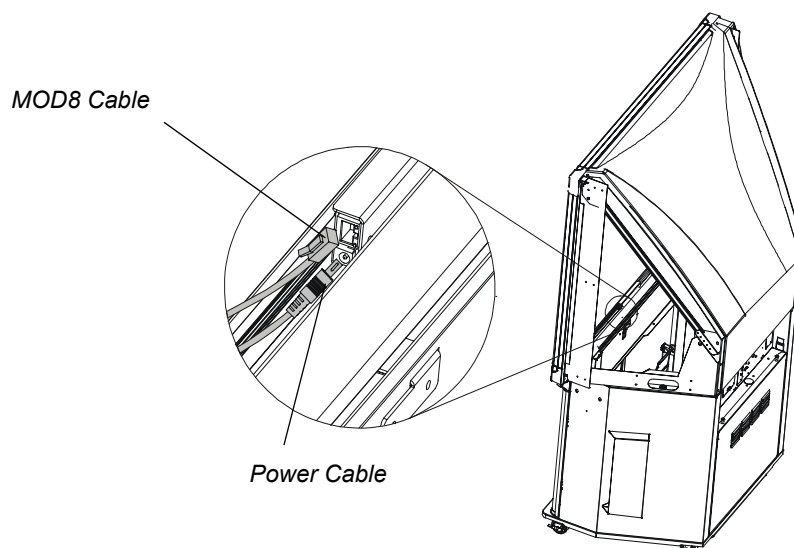
CAUTION



Never touch the back of the screen or brush against it with your head. If you do smudge this surface, lightly spray alcohol-free glass cleaner onto a soft cloth and then lightly dab the affected area to remove the marks. Never apply isopropyl alcohol, water or acetone, as these fluids will damage the diffusion coating and permanently reduce the display quality.

1. Reach inside the side panel opening to disconnect the MOD8 cable and the power cable at the back of the screen.

NOTE: The location of these connections (the communications hub) may be different for your unit.

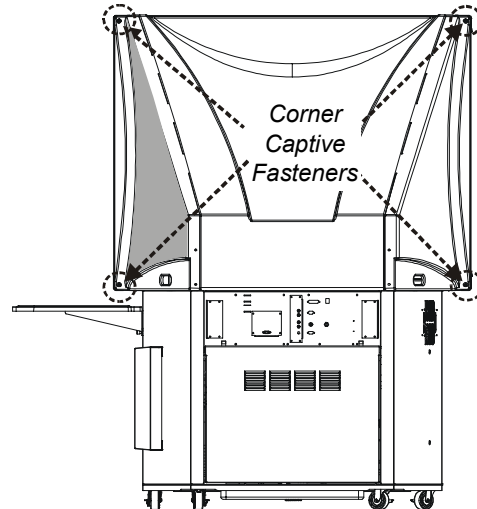


2. Loosen the four captive fasteners on the back corners of the interactive whiteboard using the Phillips No. 2 screwdriver from the accessory kit. Start with the two bottom fasteners and then loosen the top two (you may require a step stool to reach these fasteners).

IMPORTANT

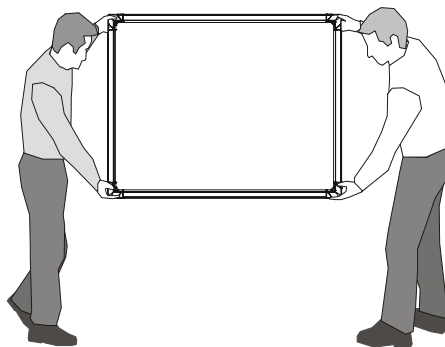


As you do this, maintain constant pressure on the screwdriver to avoid damaging the screw heads.



NOTE: The screen won't fall when you complete this step. Even after you loosen the captive fasteners, it will remain suspended on two keyhole slots near the top of the cabinet.

3. With your assistant, grasp the screen by the side and bottom corners and carefully lift it off the two keyhole slots.



To remove the top half of the cabinet

IMPORTANT



This procedure requires two people.

1. Using the 5/32" hex key from the accessory kit, remove the safety screw that's located inside each side handle. With the screen removed, you'll find it easiest to reach inside the cabinet and remove the screw through the hole above the handhold.

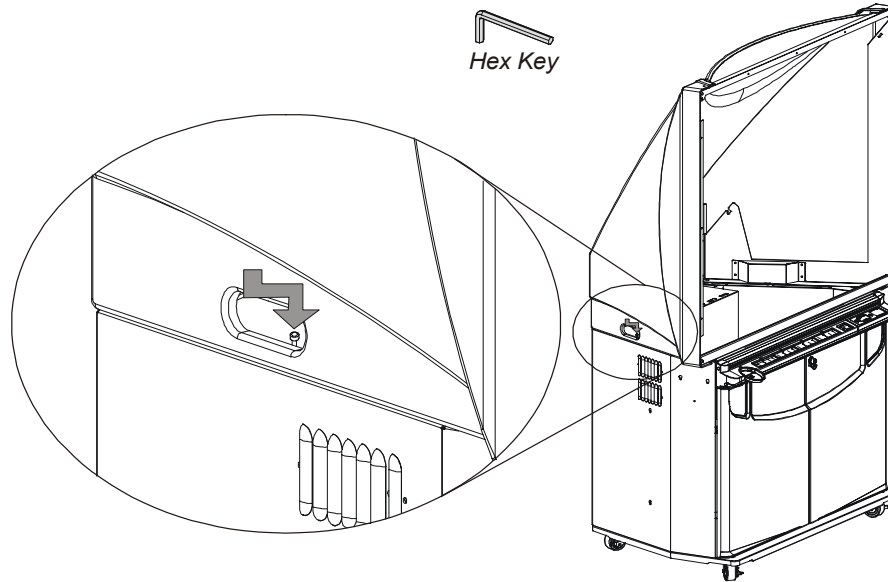


Figure 27: The Location of the Safety Screw in the Handhold

2. With the same hex key, remove the two safety screws on the underside of the top half of the cabinet, on either side of the pen tray and control panel. (If you removed a videoconferencing shelf, you already removed one of these screws.)

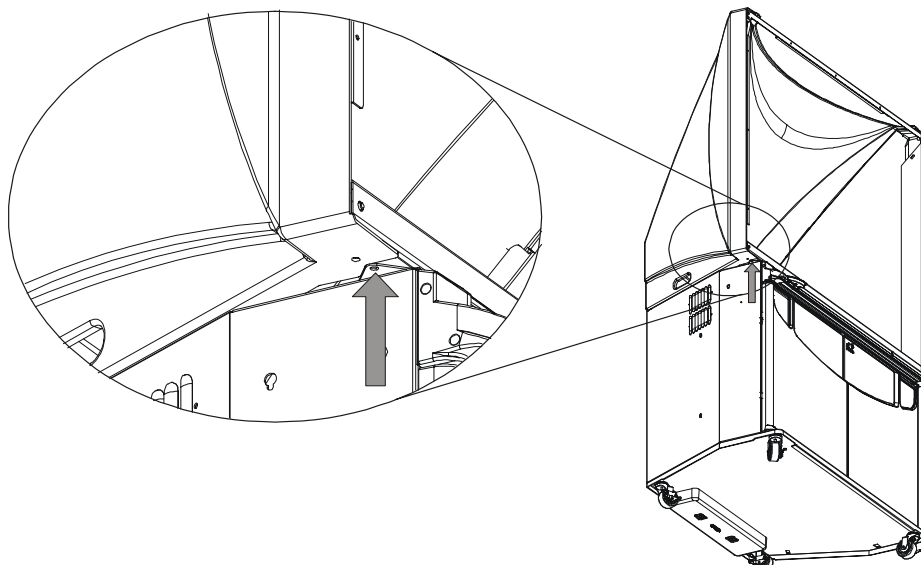


Figure 28: The Location of the Underside Safety Screw

3. With you and your partner gripping a side handle with one hand and supporting the top of the cabinet with the other, carefully lift the top half of the cabinet off the base and place it on the floor.

Reassembling the Cabinet

To return the cabinet to its operating state, follow these procedures:

- Replace the top of the cabinet (this page)
- Replace the interactive screen (page 69)
- Reinstall the side panel (page 71)
- Reinstall the videoconferencing shelf (if you removed it) (page 72)
- Return the cabinet to its operating state (page 73)

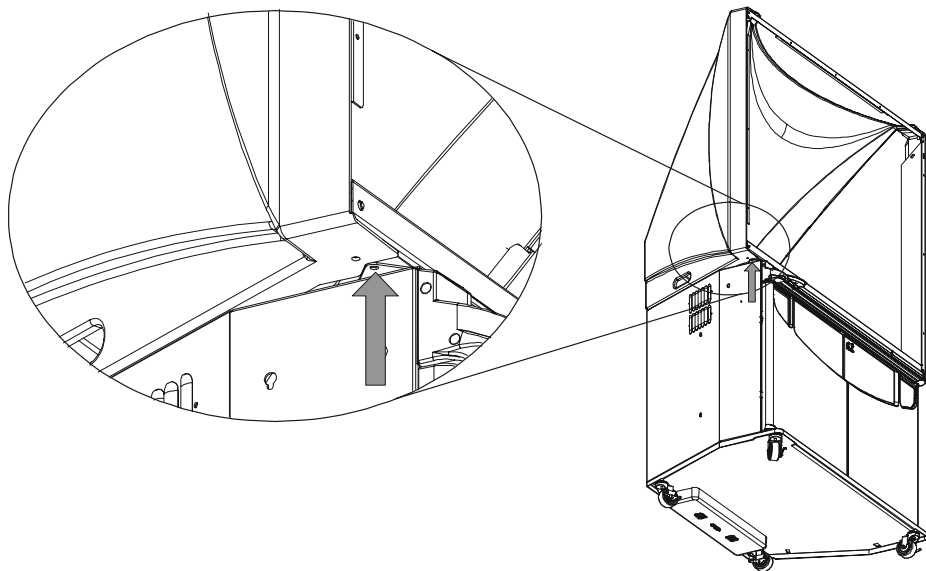
To replace the top of the cabinet

IMPORTANT

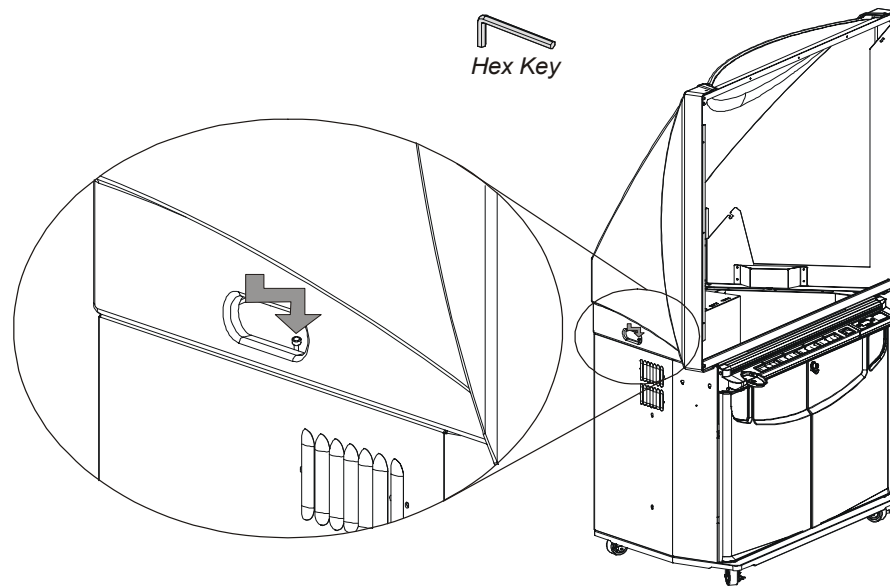


This procedure requires two people.

1. With your partner, grip a side handle with one hand and support the top of the cabinet with the other. Together, carefully lift the top half of the cabinet onto the base.
2. Return the two safety screws to the underside of the cabinet's top half using the 5/32" hex key from the accessory kit.



3. Using the same hex key, replace a safety screw in each handle.



To replace the interactive screen

IMPORTANT



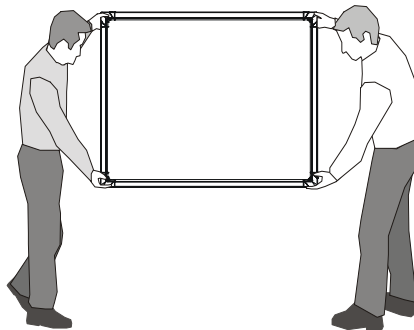
This procedure requires two people.

CAUTION



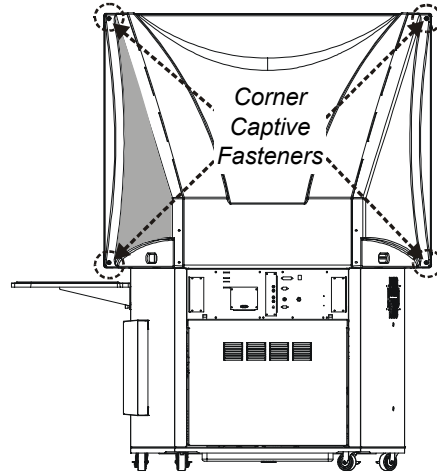
Never touch the back of the screen or brush against it with your head. If you do smudge this surface, lightly spray alcohol-free glass cleaner onto a soft cloth and then lightly dab the affected area to remove the marks. Never apply isopropyl alcohol, water or acetone, as these fluids will damage the diffusion coating and permanently reduce the display quality.

1. With your assistant, grasp the screen by the side and bottom corners and carefully lift it onto the two keyhole slots near the top corners of the cabinet.

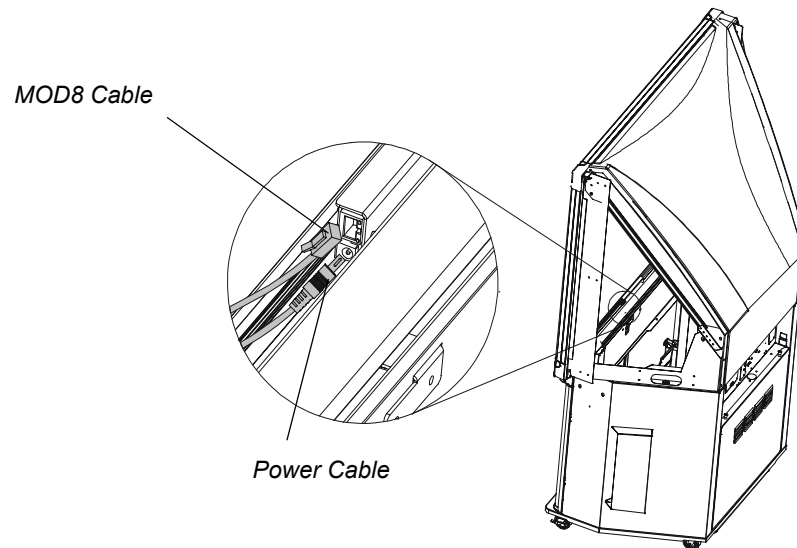


2. Tighten the four captive fasteners on the back corners of the interactive whiteboard using the Phillips No. 2 screwdriver from the accessory kit. Tighten the two bottom fasteners and then the top two. (You may need a step stool to reach the top two.)

NOTE: As you tighten the screws, maintain constant pressure on the screwdriver to avoid damaging the screw heads.

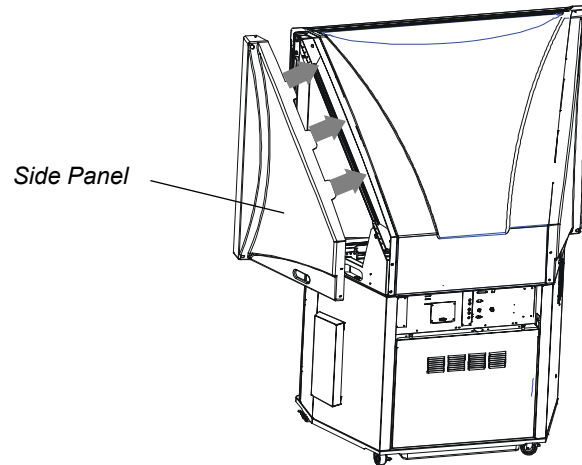


3. Reconnect the MOD8 cable and the power cable to the communications hub by reaching inside the side panel opening.

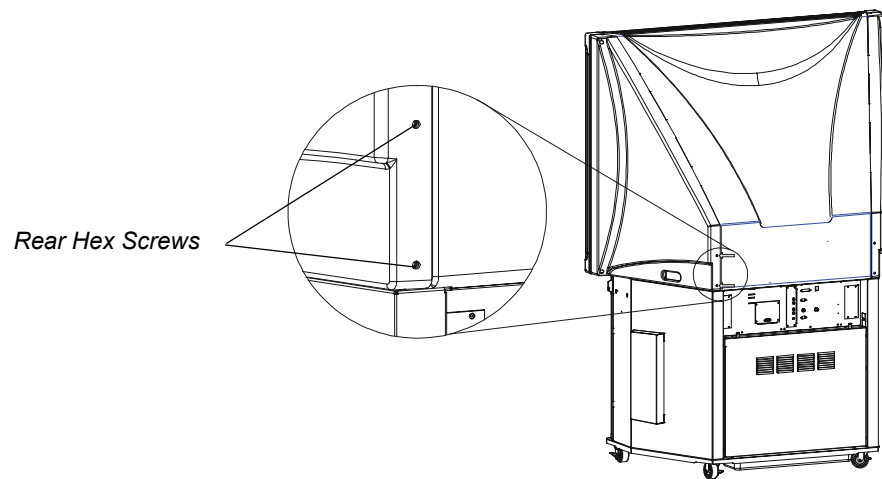


To reinstall the side panel

1. Align the three tabs on the side panel with the slots in the cabinet and then slide the panel onto the cabinet.

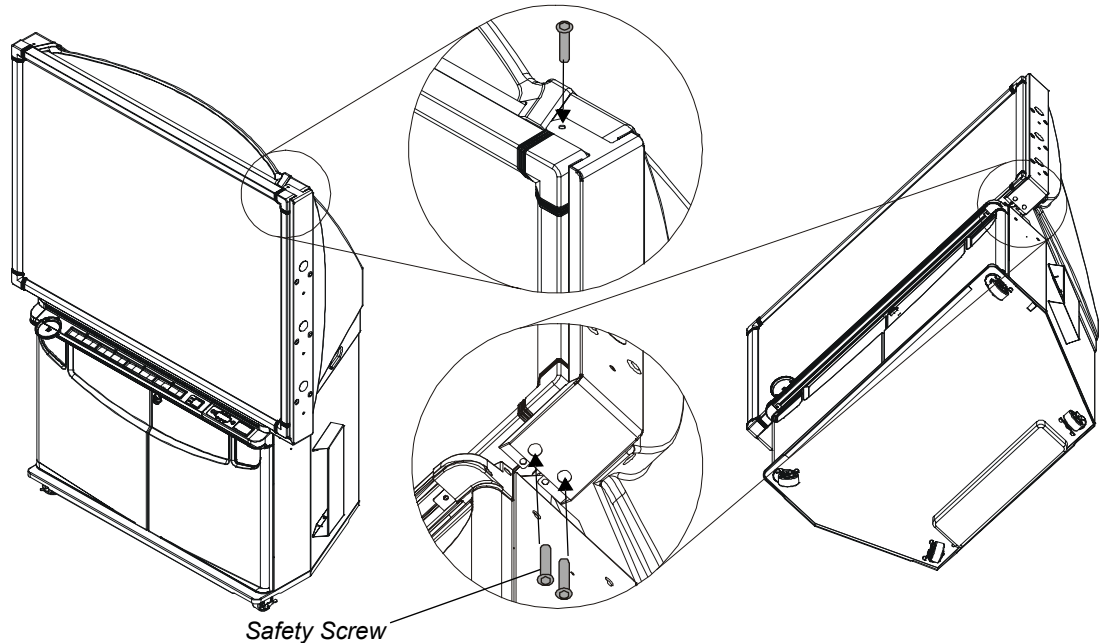


2. Reinsert the two screws on the rear of the cabinet using the 5/32" hex key.

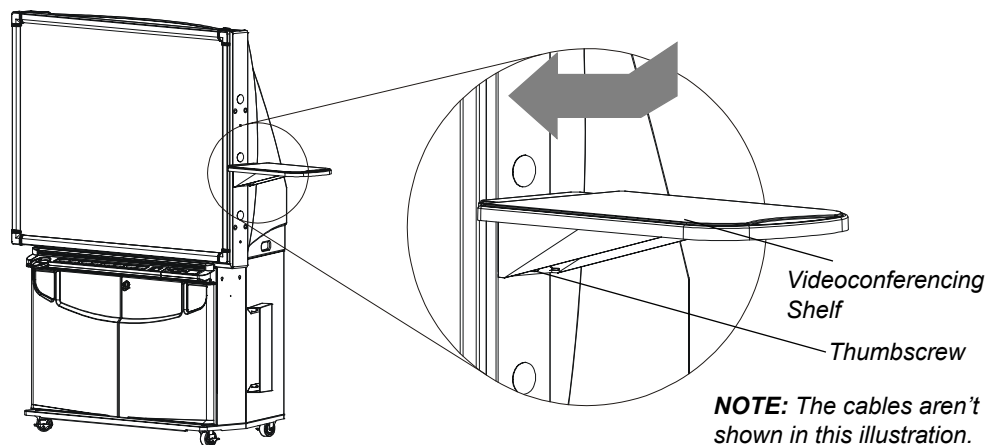


To reinstall the videoconferencing shelf

1. If you removed a mounting arm, as described on page 63, replace it and insert the three hex socket screws as shown below.



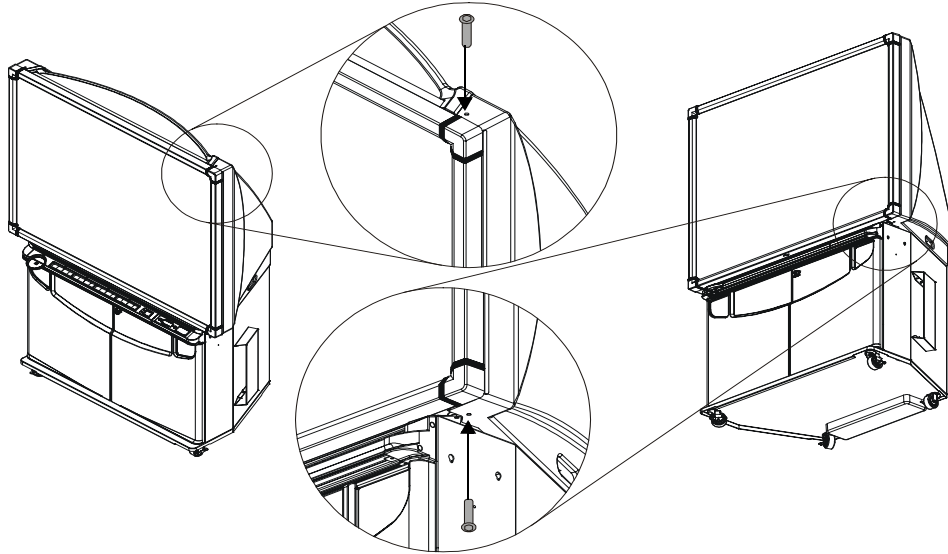
2. Feed the videoconferencing unit's cables through the appropriate hole in the mounting arm.
3. Reinstall the videoconferencing shelf on the mounting arm and tighten the thumbscrew.



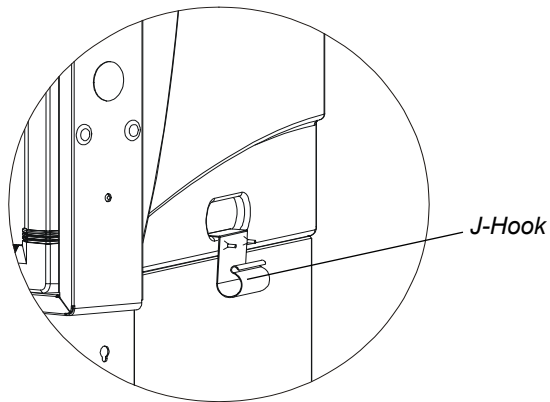
4. Return the videoconferencing unit to the shelf and reconnect it.

To return the cabinet to its operating state

1. Replace the two hex socket screws shown below using the 5/32" hex key from the accessory kit. (If you've attached the videoconferencing mounting arm, you've already replaced one of these screws.)

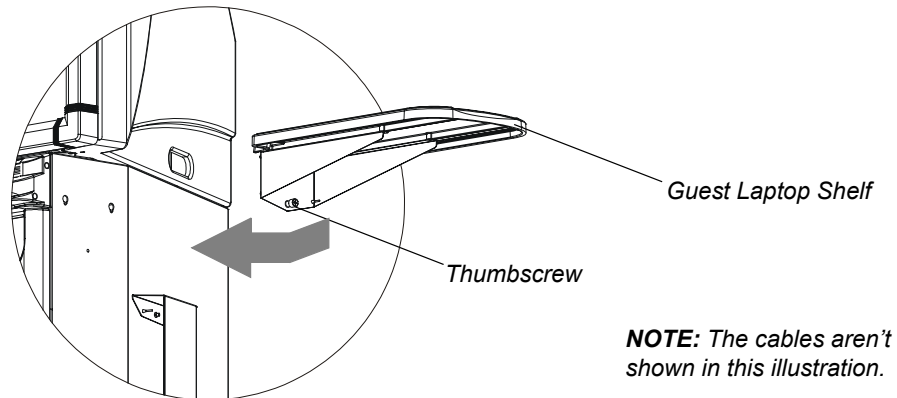


2. Reattach the infrared (IR) receiver to the right side of the cabinet.
3. Return the J-hook and cables to the right side panel and feed the cables through the hook.

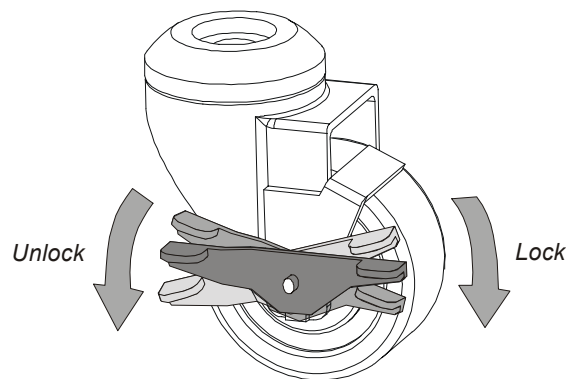


NOTE: The cables aren't shown in this illustration.

4. Reinstall the guest laptop shelf on the right side of the cabinet and tighten the thumbscrew underneath the shelf.



5. If you moved the cabinet, unlock the wheels by pressing the caster tab locks on each wheel, and then return the cabinet to its original position. Press the caster tab locks in the opposite direction to lock the wheels again.



6. Reconnect the power cable to the power outlet, and turn on the computer and projector.

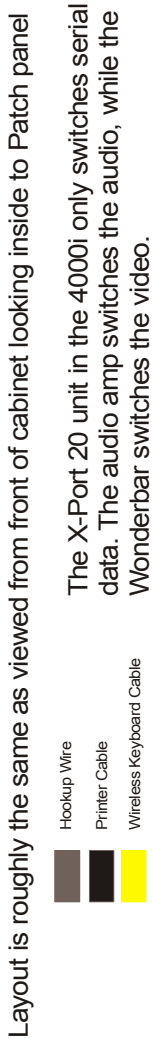


Figure 29: Cable Schematic

No.	Cable
1	S-video Port on the Connection Panel
2	Computer 1 Network Port on the Connection Panel
3	Composite Video Port on the Connection Panel
5	Audio Amplifier
6	X-Port 20 Unit
7	Fan Controller
23	12V DC Power Supply
25	Computer 1 Audio Cable
26	Power Cable
27	Composite Video Cable
29	Printer Cable
30	Computer 1 Network Cable
31	RGB Cable (OUT)
32	Cable Bundle (a 4-conductor cable from the SC8 to the Control Panel and a 10-conductor cable from the SC8 to the pen tray)
33	Speaker Cables
34	I ² C Cable for Fan
35	I ² C Cable between the audio amplifier and the X-Port 20 Unit
36	Control Cable between the X-Port Unit and the SC8
37	S-video Cable (IN)
38	I ² C Cable (X-Port 20 Unit to Control Panel)
44	Control Cable (Projector to the Control Panel)
45	Computer 2 RGB Video Cable (IN)
59	Power Cable
A	Sleeve Covering the Cable Bundle
B	Serial Cable for Computer 2
C	Audio Cable for Computer 2
D	Power Cable for Computer 2
E	RGB Video Cable for Computer 2
F	Network Cable for Computer 2
J	Wireless Keyboard and Trackball

Table 8: Schematic Cable Summary

Item	Label	Part No.	Description	Qty	Remarks
Video Cables					
27	V05	93-104	RCA composite video cable M/M	1	From the Composite Video jack (via coupler) on the connection panel to the Composite Video jack on the projector
	V01	93-00504	VGA cable, two male 15-pin connectors	1	From the Computer 1 to the projector's Computer 1 port
37	V04	93-202	Mini-DIN M/M S-video cable	1	From the S-video port (via coupler) on the connection panel to the projector's S-video port
31	V06	93-00328	HD DB15 M/F cable	1	From the projector's Video OUT port to the Video OUT port on the connection panel
E/45	V02	93-101	HD DB15 M/M cable	1	From Computer 2 to the Computer 2 Video IN port on the connection panel
	V03	93-00328	HD DB15 F/M video cable	1	From the projector to the connection panel (Computer 2)
Audio Cables					
25	A01	93-301	6 1/2' (2.0 m) 3.5 mm M/M audio cable	1	Audio cable from the Computer 1 to the audio amp
C	A02	93-301	6 1/2' (2.0 m) 3.5 mm M/M audio cable	1	From the audio amp to Computer 2 at the laptop connection panel
33	A03 & A04	93-197	Common speaker cable	2	Speaker wires from the audio amp to the speakers
Power Cables, Power Supplies and Data Cables					
23	P01	60-016	IEC-320C14 to country-specific A switching power supply	1	Power supply for 4000i
26	P02	93-00389	AC Y-cable IEC-320-C14 to IEC-320-13	1	Cable from power bar to main and IR 12V DC power supplies
D	P05	93-097	IEC-320-C14 to IEC-320-13 10A, 250V	1	Power cable for Computer 2 (in laptop umbilical)
59	P04	93-097	IEC-320-C14 to IEC-320-13 10A, 250V	1	From Computer 1 to the power bar
	P03	93-097	IEC-320-C14 to IEC-320-13 10A, 250V	1	From the projector to the power bar
	C12	93-198	Custom 2-wire MOD6 to Molex 2-pin	1	From the temperature sensor to the fan
34	C11	93-199	I ² C MOD6	1	Power and I ² C from audio amp to temperature sensor
35	C10	93-199	I ² C MOD6	1	Between the X-Port unit and the audio board
38	C05	93-200	I ² C MOD6	1	Between the X-Port unit and the control panel

Item	Label	Part No.	Description	Qty	Remarks
	C07	93-00376	I ² C MOD8 cable	1	Between the communications hub and the interactive screen
B	C01	93-027	RS-232 serial M/F	1	Between Computer 2 and the X-Port unit
36	C09	93-304	DB9 RS-232 F/F serial cable	1	From X-Port unit to the communications hub
44	C06	93-00505	DB9 F/F projector cable	1	Serial cable from the projector to the control panel
29	C02	93-112	Centronics DB25 M/F printer cable	1	From Computer 1 to the connection panel
	C03	93-027	DB9 M/F RS-232 serial cable	1	Between Computer 2 and the connection panel
32	C04	93-00393	I ² C 4-pin Molex	1	Between the control panel and the projector (bundled with C08)
	C08		GPIO 10-pin	1	Between the communications hub and the interactive screen (bundled with C04)
J			PS/2 cables to IR receiver	1	Between Computer 1 and the infrared receiver attached to the 4000i
Network Cables					
30	C13	93-00342	Ethernet CAT 5e RJ45 M/M	1	Network cable from Computer 1 to the connection panel
F	C14	93-00342	Ethernet CAT 5e RJ45 M/M	1	Network cable for Computer 2
Laptop Umbilical Cables					
B	C03	93-027	DB9 M/F RS-232 serial cable	1	Between Computer 2 and the X-Port unit
C	A02	93-301	3.5 mm M/M audio cable	1	Between Computer 2 and the audio amp
D	P04	93-097	IEC-320-C14 to IEC-320-13 10A, 250V	1	From Computer 2 to the power bar
E	V03	93-00328	HD DB15 F/M video cable	1	From Computer 2 to the connection panel
F	C14	93-00342	Ethernet CAT 5e RJ45 M/M	1	Network cable for Computer 2
Not Shown		12-00180	Snap-in RJ45 CAT-5e coupler	1	Connects network cable in external harness to wall network cable
Components					
5		26-00076	Audio amp circuit board	1	
6		26-014T	RS-232 serial switch circuit board	1	X-Port 20 unit
7		26-018	Temp Sensor circuit board		Controls the fan
Not Shown		30-438	Hook-and-loop straps		Used to hold Computer 1 to the 4000i
J		03-009	Wireless serial keyboard		

Table 9: Cable Summary

Customer Support

Contacting SMART Technical Support

SMART's Technical Support team welcomes your call. However, you may first want to contact your local reseller if you experience any difficulties with your *Rear Projection* SMART Board 4000i interactive whiteboard, as they may be able to solve the problem without delay.

All SMART products include free telephone, fax and e-mail support.

Telephone: 1.866.518.6791 (toll-free in Canada/U.S.) or +1.403.228.5940 (all other countries)
(Available 7 a.m. – 6 p.m. Mountain time from Monday to Friday)

Fax: +1.403.806.1256

E-mail: support@smarttech.com

Website: www.smarttech.com/support

When you phone Technical Support, it will be helpful if you have access to your 4000i during the call. The support representative may ask you for the following information:

- the serial number of the unit (which is on a sticker beside the connection panel on the back of the unit)
- the version of the software that's causing the problem and the version of your computer's operating system (if applicable)

General Inquiries

Main Switchboard: 1.888.42.SMART (toll-free in Canada/U.S.) or
+1.403.245.0333 (all other countries)

Fax: +1.403.228.2500

E-mail: info@smarttech.com

Address: SMART Technologies Inc.
Suite 300, 1207 – 11th Avenue SW
Calgary, AB CANADA T3C 0M5

Returning Defective Merchandise

The cabinet of the 4000i is covered by a two-year limited equipment warranty from SMART Technologies Inc. The projector in the 4000i is covered by a two-year warranty from Epson. If you experience a problem with the 4000i (including the projector), please call SMART Technical Support. Also, to return defective merchandise, call SMART Technical Support. You will receive the appropriate Return of Merchandise authorization and instructions for transporting your unit to an authorized service center.

Warranty Shipping Charges

You are responsible for transporting the 4000i to the service center, and SMART pays return shipping via ground service on any product that's returned for service within the warranty period. If you request a *rush order*, any associated charges are billed to you. Read the warranty that was included with your 4000i for details.

NOTE: After the warranty period, you are responsible for transporting the product to and from the service center.

Registration

A Registration card was included with your 4000i. To help us serve you, fill in and mail this card to SMART Technologies Inc. or register online at www.smarttech.com/registration.

Sending Feedback

You can help us improve our documentation by e-mailing your comments to TechnicalDocumentation@smarttech.com.

Obtaining More Information on the 4000i

Visit www.smarttech.com/support to:

- download PDF versions of our user guides, installation instructions and more
- read technical bulletins, FAQs and tips
- troubleshoot a problem
- explore our resource centers to learn about conferencing and room control systems

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